The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

VOLUME LI CHICAGO, ILLINOIS, DECEMBER 12, 1908 NUMBER 24

Original Articles

THE PHARMACOPEIA AS THE STANDARD FOR MEDICAL PRESCRIBING.*

TORALD SOLLMANN, M.D.

Professor of Pharmacology and Materia Medica at the Medical Department of Western Reserve University; Member of the Council on Pharmacy and Chemistry of the American Medical Association.

CLEVELAND, OHIO.

I was requested to discuss a subject which has been much agitated of late, namely, "The United States Pharmacopeia and National Formulary as Text-books in Medical Schools." Taking the title "text-books" literally, my answer would be a very brief negative, for the strictly technical reason that the functions of a reference book and of a text-book are to a certain degree incompatible. The Pharmacopeia must be a book of reference, and can yield this function to no other. I will refer only to the matter of the alphabetic arrangement, which is so eminently impractical in a text-book; but there are many other points which are even more important.

After all, however, the question which really interests the profession is not whether these books should be studied in the original text and binding, but rather, whether they can and should serve as the main or exclusive basis of instruction in materia medica. If so, the manner in which they are presented to the student may safely be left to the judgment of the trained teachers of the subject. Looking at the matter in this way, it assumes a much broader aspect; for the question of the adequacy of the official drugs in medical instruction is identical with the question of their adequacy in medical practice. I have, therefore, preferred to alter the title of my paper so as to indicate the larger scope.

INTEREST IN OFFICIAL DRUGS.

The last few years have seen a most remarkable revival of interest in the official drugs and preparations. The cry "back to the Pharmacopeia" has gone through the land. The Pharmacopeia has been lauded here and there as the panacea for all therapeutic ills. To talk and write about "official prescribing" has become the fashion. Is it a mere fashion? Or does it represent a real sentiment, based on conviction, and in final analysis, on facts? Let us examine into the matter. What is behind this movement? What does the Pharmacopeia mean to us? Is it a mere fetish, whose adoration will affect our purification by some mysterious emanation? Or does it stand for definite ideas and ideals? If so, are they worthy, and are they in fact realized by the Pharmacopeia? These questions must be answered, and in no uncertain manner, before we can afford to give our whole-hearted and unreserved support to this pharmacopeial movement. If we find that the answers are but partly satisfactory, then our support should only be partial, and our main energies should be devoted, not so much to the exploitation of the pharmacopeia as it is, but to making it what it should be.

The inquiry has already begun, in the most practical manner, that of the stern logic of facts. Many men who a few years ago prescribed secret remedies are now turning with the best resolutions to the Pharmacopeia and to the National Formulary to see what these hold for them. These books are being subjected to a test much more severe than that to which they were recently subjected by the Food and Drugs Act. They will have to answer the question, in a practical way, whether they are indeed representative of the medicine of the day—not of a hundred years ago, nor of ten years ago, nor of ten years hence—but of to-day: not of medicine as practiced by the herb-woman, or by the "registered-through-years-of-practice," or by the novelty hunter, but medicine as it is practiced by the intelligent, fairly trained, conservative-progressive practitioner, who represents the average practical ideals of the profession. For, after all, the real object of those who strive for reform is not pharmacopeial prescribing, but scientific prescribing; the use of scientific non-secret remedies, such as the Pharmacopeia is supposed to contain. Whether or not the Pharmacopeia is to be the means of this reform depends entirely on the extent to which it meets these ideals.

VALUE OF THE PHARMACOPEIA TO THE PHYSICIAN.

The usefulness of the Pharmacopeia to the physician is coincident with the usefulness of the remedies which it contains. What most concerns the physician is the selection of the substances which are admitted into the Pharmacopeia. To attain its object so far as the medical profession is concerned, it must in the first place contain the substances which the physicians wish to use. It may be put down as an axiom that the practitioner who does not use the remedy which is best for his patient is not doing his duty. If that remedy is not in the Pharmacopeia, so much the worse for the Pharmacopeia.

In the second place, however, to fully reach its ideals, the Pharmacopeia should be, to a certain extent, educative—it should not be the dump heap of a miscellaneous collection of remedies, good, bad and indifferent, which happen to please the passing fancy of the year of its publication. On the contrary, it should aim to contain only remedies of demonstrated value and superiority. In this way it may guide and lead the practitioner, who will come to it with some confidence that in using

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Pharmacopeial remedies he is indeed using something of value.

This, then, is the test to which the Pharmacopeia is being subjected. It is not necessary to await the outcome, the general results can be foretold, and to a considerable extent forestalled, by timely changes. The truest friends of the Pharmacopeial movement are the first to concede that the present Pharmacopeia can not claim to attain fully these ideals, and that the National Formulary is far from being a perfect guide to scientific prescribing. Setting aside the Formulary for later consideration, let us inquire into those faults of the Pharmacopeia which prevent it from becoming popular with the medical profession. This will necessitate some rather thorough criticism, but I trust that this will be constructive, rather than destructive.

Before entering into this criticism I wish to place myself on record as a sincere admirer of the wonderful amount of reliable information which is collected in this volume, and which makes it one of the most valuable works of its kind. Its defects are caused mainly by the methods used in its preparation; and in the following I wish to suggest to you such plans as will, in my opinion, greatly, if not entirely, eliminate these defects. According to the method of scientific therapeutics, let us inquire into the causes of the deficiencies of the Pharmacopeia and see whether we may not thus arrive at rational remedies.

Why does not the Pharmacopeia of to-day represent more successfully the best of present day therapeutics? Why does it not contain some of the valuable remedies, and why does it contain so much that is obsolete?

The causes seem to me to come under three headings: 1. The principles and methods used in selecting what substances are to be admitted; 2, the veil of secrecy thrown about the proceedings of the revision committee; 3, the long interval elapsing between the revisions.

I shall not aim to point out how these same factors lessen the usefulness of the book as a pharmaceutical standard—this aspect of the question is at least equally important; but, for want of time, I shall confine myself mainly to the medical aspects. From this standpoint, the question of the selection of remedies is at the moment by far the most important; but since it is also the most complex, I shall reserve it for the last.

DISADVANTAGES OF THE PRESENT METHOD OF REVISION.

If I am correctly informed, the present revision committee has aimed to enshroud its deliberations and proceedings with an impenetrable veil of secrecy, so that no one outside of the committee should know what was to go into the Pharmacopeia until the first copy was on sale; and so that no one to this day, three years after the publication, should know what manner of reasoning led to the conclusions which are embodied in this book.

It is one of the most unfortunate results of this very system that we do not even know what prompted its adoption. Presumably it was devised with the object of excluding interference on the part of those who might be financially interested in the decisions. If this was the motive, I would submit that publicity would accomplish the purpose much more successfully than any attempt at secrecy.

On the other hand, this short-sighted policy deprived the committee of the benefits of a public discussion of its contemplated policies. No revision committee can be expected to be perfect and omniscient. Would it not be advisable to throw its decisions and conclusions open to a general discussion before they become fixed and binding, as at present, for ten years? I am not proposing that all the details of the deliberations of the committee should be published—a committee of this kind is entitled to some decent privacy and quiet; this is indeed essential to all scientific work. But I do contend that its methods and its decisions should be published from time to time, as adopted; and that a reasonable interval be allowed for discussion, criticism and alteration before any decision is made binding.

I am not so sure whether it would be wise to publish the constitution of the various committees, while the work of revision is in progress—but on the whole I think that this would be the wiser policy. At least, there would be no disadvantage and every advantage in publishing the names of those in especial charge of the different portions of the work after the Pharmacopeia is published.

WHAT INTERVAL SHOULD ELAPSE BETWEEN SUCCESSIVE REVISIONS?

As you all know, the Pharmacopeia is revised every ten years. All the improvements and discoveries which are made in the interim must wait for recognition until the next revision. In other words, the Pharmacopeia is generally from one to ten years behind the time. It is superfluous to point out what this means in these days, when the annual output of research in therapeutics, pharmacy and the allied sciences is measured by volumes. Moreover, any errors which have crept into the book; formulas which are found unworkable; standards which actual trial demonstrates as too strict or too lax—all such matters have to stand unrepealed for a decennium.

This has resulted in the anomaly that the supposed authoritative standard was neither the final authority nor the final standard. This deficiency was rendered so conspicuous when Congress enacted the Pharmacopeia as the federal standard, that the present revision committee felt obliged to take the first step in the right direction by issuing lists of "additions and corrections." The necessity for this supplementary revision is made manifest by the fact that within two years these corrections included 431 changes; or 274, if duplicates are excluded. In the words of the chairman of the revision committee:[1] "That the Pharmacopeia should be revised oftener than once in ten years must be apparent to all, and this subject must claim the serious attention of the next Pharmacopeial convention; but, on the other hand, a constant tinkering with the standards should be avoided."

I agree heartily with both clauses of this statement, although I venture to doubt whether any amount of "tinkering" could unsettle conditions more than the long delay which we have witnessed in the issue of the last Pharmacopeia. This, combined with the strict policy of secrecy, operated to the intent that no one knew "where he was at" in matters pharmacopeial, for at least five years. The excessively short time which was granted for the adoption of the new standard served still further to unsettle conditions. This important matter, incidentally, should be adjusted in advance by the convention and not left to the committee or even to the trustees.

1. Amer. Pharm. Assoc. Bull., ii, 365.

To return to the subject, however, there should be no "tinkering," but only such repairs and improvements as the intervening experience has shown to be necessary. On the other hand, whenever the advisability of a change has been demonstrated, it should be made as promptly as possible. I would suggest that the new revision committee publish its conclusions as soon as they are made, monthly if necessary; that a reasonable interval, at least four months, be allowed for general discussion; that once a year, or oftener if necessary, a supplement be issued, printed in such a way as to be readily detached and inserted into the present Pharmacopeia; that each supplement became official four months after its publication. All this before the next regular "revision" is issued; that when the ground has been fairly covered in this manner—be it three, five or seven years—the "revised" edition be published, which would not be anything essentially new, but only a systematized reprint of the old edition and the new supplements. That the same procedure be kept up until the meeting of the next convention, when the committee would terminate its labors by reporting to the convention whatever changes in general policy their experience would suggest. I am convinced that some such changes must be made if the Pharmacopeia is to become the real standard; but these suggestions should only be adopted with a realization of their full meaning.

This whole subject is one of the most important and far-reaching with which the next Pharmacopeial convention will have to deal, for an affirmative vote will mean a radical reorganization of the present method of revision. It will mean that the revision is to be continuous instead of intermittent; that the revision committee will be in active service throughout its entire term of office; it should mean the concentration of the responsibility on those who have the time and ability to render this continuous service and to do the actual work; it should mean the elimination of any whose services are ornamental rather than useful, political rather than technical; it should mean that the ninth revision of the Pharmacopeia would begin to appear and to be official within one or two years after the meeting of the convention; and that it would not be closed until the meeting of the next convention.

ORGANIZATION OF THE REVISION COMMITTEE.

It appears to me that the present revision committee is too large for effective work and for the proper distribution of responsibility. The present method of selecting the members of this committee, without regard to their special qualifications and of subsequently assigning to them special technical subjects, also seems to me poorly adapted to securing the special expert talent which the revision requires. The fact that thus far the revision committee has met the demands on it as well as it has, seems to me rather a fortunate accident. The matter is far too important, however, to be entrusted to accidents. As to the division of the work among the committee, the scheme described by Professor Rice[2] is admirable in its general scope, although I would suggest the consolidation of several of the subcommittees, for the purpose of centralizing responsibility.

To illustrate the working out of the ideas which I have presented, I would submit to you the following outline for the appointment and *modus operandi* of the general revision committee.

Membership of the Revision Committee.—The final voting power should be entrusted to a limited "executive committee" consisting of the general chairman and chairman of the nine subcommittees, namely:

1. Admission.
2. Pharmacognosy.
3. Proximate Principles and Assays.
4. Volatile and Fixed Oils.
5. Inorganic Chemicals, Chemical Processes and Reagents.
6. Organic Chemistry (including synthetics).
7. Pharmaceutical Processes and Formulas.
8. Pharmacodynamics (including sera).
9. Therapeutics (including strengths and doses).

With the general chairman, this would give a working (executive) committee of ten members. These chairmen should be elected directly by the pharmacopeial convention. Two nominations for each place should be submitted by the retiring revision committee—one of these two nominations should be that of the present incumbent, if he has performed his services satisfactorily, and is willing to continue. Additional nominations from the house should be called for. The nominations and ballot for each place should be taken up seriatim.

The elected chairman of each subcommittee should appoint such "associates" to his committee as he deems advisable, subject to the approval of the executive committee. The associates of the admission committee, however, should be elected directly by the convention. In case of failure of any member to carry on the work of his committee properly, it should be the duty of the general chairman to report this to the trustees, who, after opportunity of hearing, should relieve him of further service, if they deem this necessary, and elect a successor from nominations made by the executive committee. Vacancies from other causes should be filled in a similar manner.

GENERAL WORKING METHOD.

The admission of an article having been decided by the admission committee—of which I shall have more to say presently—the general chairman should refer the article to the chairman of one of the committees 2 to 8, on whom the responsibility of securing a proper description should rest. The chairman of this subcommittee should then apportion the article among his staff and should obtain what outside aid he needs from the other subcommittees and elsewhere, and render a report to his subcommittee for discussion. After alteration and adoption by this subcommittee, he should transmit his final report to the executive committee for vote. If adopted, the therapeutic committee should affix the dose, and the general chairman should prepare the description for publication, submitting proof to the executive committee and to every member of the subcommittees in which the report originated.

SCOPE OF THE PHARMACOPEIA AND THE ARTICLES ADMITTED.

I have postponed the discussion of this question as long as possible, because it is the most difficult phase of the subject. We will make better progress if we acknowledge at the outset that the question is incapable of a strictly scientific and logical solution; that the

2. Pharm. Era, 1895, xiii, 102.

answer must be a compromise, because the Pharmacopeia itself is a compromise between very diverse interests.

The retail pharmacist, the manufacturer, the unprogressive and the progressive physician, and the pharmacologist—each would make a very different Pharmacopeia. The east and the west and the south would introduce further differences. No one Pharmacopeia which human ingenuity could devise would seem ideal to all of these factions. Admitting then this difficulty, that the Pharmacopeia must be a compromise, it does not, however, follow that it must be a compromise without any plan or system.

As a basis for discussion, I would submit the following definition of the plan and scope of a national Pharmacopeia, viz:

It should aim to enumerate those substances whose medicinal value and superiority are generally conceded and which are generally used in the country; it should aim to furnish such descriptions and indicate such tests as will suffice to establish the identity, strength and medicinal purity of these substances; and it should furnish practical working formulas for such preparations as may be profitably prepared in a well equipped retail pharmacy. It should aim to present this information clearly and conveniently; above all, it should aim at the highest degree of reliability of all its contents. Consequently, it should be slow to accept any statement or opinion. It should breathe a healthy but not excessive conservatism as to new matters, and an equally rigorous criticism and re-examination of old matter.

With this general definition in mind, let us examine what criteria should be applied to the selection of admissions. The extremely conflicting opinions which prevail on this score can, it seems to me, be brought under three headings:

1. The first opinion, particularly prevalent among pharmacists, is that the Pharmacopeia should contain all substances which are sufficiently often used; whether they be good, bad or indifferent; whether they are used by physicians or only by the laity.

2. The second opinion differs from the first only in so far as it would exclude those substances which are not used by physicians, but only by the laity.

3. The third would exclude all substances whose value had not been scientifically demonstrated, regardless of their extensive use.

Personally, I feel convinced that the last is the direction in which progress lies. It is the ideal for which we should strive; the ideal which will enlist the sympathy of the best, and I trust of the largest, portion of both professions. In proportion as it is successfully attained, it will do more to place the popularity of the Pharmacopeia on a solid foundation, among the medical profession, than any pandering to ephemeral fads and fancies, than any concessions to "nine day wonders" of advertising.

In urging you to accept and support this ideal, I do not wish to commit you to any visionary scheme, to any impractical standards. I do not consider the full attainment of this ideal practical, but I do consider the striving for it as eminently practical and useful. An ideal, however worthy, is not in itself the solution of a problem, but it can be of great practical value as a guide in the solution. The compass does not calm the tempest; it does not even steer the mariner across the sea—but it shows him in what direction to steer.

HOW TO DETERMINE WORTH.

If we then accept this ideal, how are we to determine which remedies are truly worthy? There are three different ways open to us:

1. Popular experience as determined by the continued extensive use of the drug.

2. Clinical experience, as represented in the current opinions of clinicians.

3. Laboratory experience, representative of the stricter conditions of control.

Each of these methods is open to obvious fallacies. Mere popularity, as evidenced by extensive use, is no more conclusive evidence of the intrinsic value of a remedy than it is of the intrinsic value of anything else.

The clinical experience would seem the best guide, theoretically. But no one who has watched the ebb and flow of therapeutic practice—the ease, for instance, with which it can be temporarily swayed by skillful advertising—would care to entrust the judgment of therapeutic value to clinical experience alone.

The laboratory investigator, finally, deals more strictly with demonstrable facts; if he is honest and capable, his statements as to these facts may be generally accepted as correct and conclusive. But the honest and capable laboratory investigator is the first to concede the limitations of these facts and to seek their correlation with clinical and popular experience.

I believe that the practical solution of the problem lies in the last direction—in the critical correlation of the three classes of experience. With the present imperfections of therapeutic science, the problems must be approached by every avenue, and not by one to the exclusion of the others. Popularity, or the lack of it; the consensus of clinical opinion; and laboratory results—each of these should be admitted to furnish presumptive evidence for or against the value of a substance, unless they are clearly and definitely contradicted by the others.

If we are agreed on the ideal and on the nature of the evidence required, we must next ask, how is the evidence to be collected and judged? As to the collection of the evidence, the methods must be very different for each of the three classes. The simplest case is in regard to laboratory experience; for the number of professional "pharmacologists" is so limited that their opinions could be readily learned by direct correspondence.

The same method, however, when applied to clinical and popular experience, would only result in confusion. It would be necessary to aim at a representative rather than at a universal expression of opinion. For this the ideal medium exists ready at hand in the local societies, both medical and pharmaceutical.

In practice, then, I would suggest that a check list of the substances and preparations contained in the present Pharmacopeia be sent to the secretary of every local medical and pharmaceutical society, with the request that his society vote which of these articles they consider worthy of retention, in accordance with the ideals laid down; and to indicate any further remedies which they would wish to have added.

If a fair proportion of both professions can be made to see that the Pharmacopeia is, after all, their book, and not the book of the revision committee; if they can be made to feel that their cooperation is really desired and that the request for cooperation is not merely perfunctory; then I feel certain of a sufficient response to

such an inquiry to furnish some statistical basis for judgment. This would be of the highest value, indeed indispensable, for the solution of this question, provided that it is used intelligently and judiciously, with a proper regard for cause as well as effect.

This opens up the final question as to who is to sift and judge this and other evidence and decide on the admissions. At present, I believe this matter is decided by the whole revision committee, each member having an equal voice. Is this method calculated to give the best results? In seeking for an answer we need only consider the fact that most of the members of this committee are supposed to be selected primarily for their expert knowledge of chemistry, pharmacy or pharmacognosy and not for their ability to judge of the medicinal importance of the substances. It undoubtedly happens quite frequently that the knowledge of the one and the ability to judge the other are combined in the same individual; but even so, this is little more than a coincidence; and this matter also is far too important to be left to mere chance.

This is illustrated by the examination of the composition of the revision committee. Every one, I think, will concede that the medical profession should, on the whole, have the larger, if not the exclusive share in deciding what substances are of medicinal importance. Yet of the twenty-six members of present revision committee, only twelve have the title of M.D, and of these only half are identified mainly with medicine. So that the medical profession, instead of having the dominant voice in the decisions, is very decidedly in the minority. This preponderance of pharmacists is indispensable for the technical work of the revision, for this is mainly pharmaceutical. This makes it apparent that these two subjects—the selection of the admissions and the technical matter—can not be handled with equally satisfactory results by the same set of men. The authority and responsibility for the admissions must be vested in a special committee—and the importance of this subject demands that this committee be elected for this specific purpose directly by the convention.

I can see no valid objections to this plan; any members elected to this committee could also be elected to the chairmanship of any of the other subcommittees if this were thought desirable. To secure a good committee, however, the convention should be guided by definite rules as to eligibility. It goes without saying that the members should be of the highest integrity and as free as possible from any affiliations which might cloud their judgment. But it is equally important that they should be able to deal intelligently and thoroughly with the subject, and to this end, that they represent fairly the best sanely progressive and conservative element of both professions.

The exponents of popular, clinical and laboratory experience should all three be represented by retail pharmacists, practicing clinicians and professional pharmacologists. An equal representation appears to me the most desirable, let us say two representatives of each, making a working committee of six. After due consideration and discussion of the statistical and other evidence, an affirmative vote of four should then be required for the admission of an article. As soon as an article has been thus accepted, it would be turned over to the general chairman of the revision committee for technical elaboration, as I have previously outlined.

There is one more matter in connection with admissions where the present policy should be revised—I refer to the admissibility of patented medicines and otherwise protected articles. The policy, dictated by the convention, has been to exclude these from the Pharmacopeia, presumably as a protest against the commercialization of what we would love to see an honored sister-profession, rather than a business. If this was the object of the exclusion it has signally failed in practice—the new inventions are still being given to the suffering public with a monopolistic string attached—free handed, but not free! Much as we may deplore this fact, a fact it remains. To refuse to utilize a therapeutic improvement in this account would be to cut off the patient's nose to spite the promoter's face. And if we use them there is little sense in excluding them from the Pharmacopeia. So long as we prescribe his wares, the promoter cares very little whether we give them official recognition. On the other hand, admit the best of the strictly scientific protected articles of each class to the Pharmacopeia, making exclusively pharmacopeial prescribing a practical possibility instead of a Utopian theory, and you will have made it an object to the promoter to be strictly scientific, by giving him a real advantage over his unscientific competitors.

It may be urged that this is unethical; that it would overload the pharmacopeia; that it would hold out too strong financial inducements. To these objections I would reply that there is no violation of the principles of scientific ethics and that altered circumstances alter practical ethics. Much of the dreaded overloading might be saved, here as elsewhere, by group-headings; and, after all, the number of important "discoveries" which would survive a careful, scientific scrutiny and discounting of any fictitious value of advertising, and of the lure of novelty, is not so large as to excite alarm—at least my service on the Council on Pharmacy and Chemistry of this Association has so impressed me. And it has also impressed me with a healthy optimism as to the probable attitude of such a committee toward outside influences, especially when the responsibility could not be hidden behind secret deliberations or behind a large committee. I may add that this suggestion is not at all revolutionary, for it was publicly advocated by Professor Rice in the admirable paper to which I have already alluded.[2]

THE NATIONAL FORMULARY.

Until quite recently the National Formulary was a modest, unobtrusive, harmless and really useful little book, compiled by the American Pharmaceutical Association primarily for the benefit of Pharmacists, purposing to give working formulas for such preparations as the pharmacopeial revision committee did not care to father—elixirs, cough syrups, shot-gun prescriptions, etc.—a book in which the tottering great-grandmothers of the materia medica were resurrected from their well-earned sleep in the therapeutic graveyard, to join in a merry dance with the lusty and vociferous youngsters of the modern therapeutic yellow press; with here and there a healthy débutante waiting bashfully for the favorable notice of the revision committee.

Altogether, the spirit of the book adhered pretty closely to the motto: "For those who like this sort of thing, this is just the sort of thing they like." This was the kind of unpretentious, irresponsible but useful existence from which the National Formulary was sud-

denly roused by its federal recognition as a legal standard. It had aimed at nothing higher than to supply a popular demand, uncritically and blindly; and suddenly found itself set up as a leader for this very demand. The position is in many ways highly anomalous. These are problems, however, which do not concern the medical profession and that is my principal reason for pointing them out.

There is no doubt that preparations such as those listed in the National Formulary are used by the profession as well as by the laity; and thus there is a legitimate need for such a book, which it well meets. There should be definite and legalized standards of strength for such preparations, although the working formulas and flavoring of the National Formulary should in practice be made optional with the manufacturer. To this extent the National Formulary deserves encouragement, and if the American Pharmaceutical Association so desires, the American Medical Association could authorize the Council on Pharmacy and Chemistry to act as an advisory committee to whom such questions as doses, the desirable strength of mixtures, or obvious therapeutic incompatibilities might be referred. Further than this, however, we should not go. The medical profession should emphatically decline to share in the responsibility for a book so professedly uncritical as the National Formulary, by its very nature, must be.

In conclusion, I feel very sincerely that I must ask pardon for my presumption in occupying so much time in the discussion of matters in regard to which I am distinctly an outsider. I wish to assure you, however, that I did not undertake the matter lightly, but after much serious thought and hesitation, not because, as Professor Remington has said, "If any man wants a subject for discussion, and one which he can hit with safety, there is always the Pharmocopeia." My motive has been the conviction that all the preaching in the world will not and can not make the Pharmacopeia the practical standard of medical prescribing so long as the revision committee adheres to its present ideals and methods. The ideals and methods which I have laid before you can only be realized by the practical cooperation of the medical profession. In less than two years the pharmacopeial convention meets. If you agree with all or part of what I have said you have a personal duty to discharge, and it was the sense of my own share in this duty which has prompted me to address you on this subject. My personal inclination would have been for almost any other subject.

Experimental Reproduction of Whooping Cough.—W. N. Klimenko reports in the *Centralblatt für Bakteriologie*, Oct. 10, 1908, that he has succeeded in cultivating the Bordet-Gengou bacillus from the catarrhal secretions of children with whooping cough, and with it has reproduced the disease in 48 young dogs and in monkeys, afterward cultivating the bacillus again from the secretions of the animals. It was in 1906 that the Belgians, Bordet and Gengou, announced the discovery of a bipolar bacillus in the first week of pertussis, which they regarded as the causal germ. Klimenko found this same germ in 80 per cent. of 76 children in the first week of whooping cough, while the findings were constantly negative in 50 healthy infants and in patients with other various affections. The period of incubation in the experimental pertussis ranged from two to six days, and the duration of the disease averaged 48 days. Bordet found a specific amboceptor for this bacillus in the serum of children convalescing from pertussis.

THE NEED OF MORE INTIMATE KNOWLEDGE OF THE U. S. PHARMACOPEIA AND THE NATIONAL FORMULARY AMONG PHYSICIANS.*

JAMES M. ANDERS, M.D., LL.D.
Professor of Medicine and Clinical Medicine in the Medico-Chirurgical College.
PHILADELPHIA.

There is need of a sober viewing of the question of pharmacy in its relation to medicine. While these two professions are engaged to an extent in different fields of observation and practical work, they have many interests in common, and it is especially in behalf of those higher ethical principles on which real progress depends that joint meetings and free discussions of the natural lines of contact will prove mutually strengthening and result in a real gain to mankind. Indeed, the program of procedure has been already outlined, and men with definite convictions, beliefs, hopes and aspirations for better things, have enlisted in the movement under the general direction of the American Medical and American Pharmaceutical Associations, and it is fitting that this section should have been fixed on as one of the principal centers for the consideration of subjects affecting so vitally the present and future welfare of both medicine and pharmacy.

I realize that the subject which I am about to discuss must be approached carefully and calmly, and also that in emphasizing the importance of the utilization of the U. S. Pharmacopeia and the National Formulary in the practice of medicine, nothing is to be gained by extravagant claims or unreasonable statements. I can only hope (and I believe) that the result of my recent experience and investigations into the question may be of assistance to other practitioners. Admittedly, no member of our profession is deserving of censure who honestly strives to bring to his aid in the treatment of disease all the therapeutic adjuvants at his disposal. He should, however, make thrice certain that he is weaponed with reliable instruments. Such a course would exemplify a proper appreciation and respect for scientific pharmaceutics. The time has come to recognize the fact that a reform movement among pharmacists is now, and will be as time passes, in progress, working through the American Pharmaceutical Association and its numerous branches. A parallel movement with a view to meeting the requirements of the higher ethical standards and improved conditions generally in the medical profession has been brought about in recent years, chiefly through the efforts of Dr. George H. Simmons, editor of THE JOURNAL, Dr. Frank Billings, Dr. McCormack and other individual members of the Association, the work of the Council on Pharmacy and Chemistry, and of the Council on Medical Education of the American Medical Association, and the passage of the federal Food and Drugs Act.

It is safely within the limits of strict justice and truth to remark that legitimate pharmacy has been grossly neglected by the medical profession during the past quarter of a century—a period during which physicians have been depending largely on proprietary preparations and "secret nostrums," and in which there has developed a stolid indifference to ethical obligations. The propa-

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

ganda in favor of the U. S. Pharmacopeia and National Formulary will be productive not only of cordial relations between these two professions, but through their collaboration the warfare already begun will be carried to a victorious issue. The ultimate aim of such a union of forces should be to overthrow, by effective legislation and in other ways, all quackery, charlatanism, the "club practice" evil, unethical proprietaries and secret nostrums. To this end there should also be a public awakening—a prevailing demand for absolute publicity as regards the composition and therapeutic application of the physician's armament.

In general, education of the medical profession in the importance of the information to be derived from a careful study of the U. S. Pharmacopeia and the National Formulary is a leading consideration and one which should not be ignored. It is certain that the advantages to be gained from such a course in the past have not been appreciated, principally because of the prevailing ignorance in regard to the contents of these authoritative works. Indeed, the present unenviable situation and the shortcomings of the medical world in relation to pharmaceutics are largely the result of the errors of the past, especially in the direction of a dominating tendency to employ proprietaries and secret nostrums. The profession had lost sight for a considerable interval of time of the successive achievements of the geniuses to which the science of pharmacy owes its being. For their wisdom and the unselfish, steadfast devotion of superior endowments to the highest interests of the medical profession, these men are worthy of the most distinguished recognition.

It may, however, be justly claimed that at present the medical profession of America is slowly and gradually recovering from the debauched condition into which it had fallen in consequence of the wide use of proprietary remedies, and what is even more regrettable, illicit combinations between certain of its members and those manufacturing druggists who pursued dishonorable methods.

The time, therefore, is ripe for direct, pointed statements concerning the lack of studious attention on the part of the medical profession to the U. S. Pharmacopeia and the National Formulary. If physicians were to inform themselves more fully on the reliable facts and data contained in these books they would appreciate their superior advantages in practical therapy. It is universally admitted that the U. S. Pharmacopeia has been edited and revised by men who by training are entirely competent to accomplish the task in a thoroughly scientific, trustworthy and acceptable manner. Its teachings form one of the truly important foundation-stones of rational therapeutics.

Physicians may rest assured that the preparations to be found in the U. S. Pharmacopeia are to be preferred, as a rule, to the newer, untried, unofficial preparations exploited by pharmaceutic chemists and manufacturers. On the other hand, there are certain synthetic proprietary articles in general use and widely approved by the best element of the medical profession; and a selected few of these might be advantageously introduced into the U. S. Pharmacopeia.

The adequate training of the physician of the future will demand an acquaintance with the contents of the volume under consideration. "The undergraduate's knowledge of the subject-matter need not extend beyond a complete summary, but this he should have with a view to stimulating his subsequent interest in this branch of practical medicine. In medical schools in which the professors of materia medica and therapeutics are authors of works on these subjects, it is proper and advantageous for the students of such schools to adopt them as text-books, but under these circumstances teachers should avail themselves of the opportunity to force conviction on the minds of students as to the importance of the U. S. Pharmacopeia as a work of reference and post-graduate study. I have examined carefully the catalogues of the regular medical colleges of this country, numbering 144, and found that of these sixteen have recommended the U. S. Pharmacopeia, while one mentioned the National Formulary."[1] The figures indicate conclusively the lack of sentiment among medical educators favorable to the important matter of instructing students of medicine "as to those portions of the U. S. Pharmacopeia which are of value to the practitioner." The adoption of measures to bring about a more general use of this work in the training of undergraduates is to be advised and encouraged. It is gratifying to record that at an informal conference called by Prof. J. P. Remington of the teachers in the medical schools of Philadelphia, the following resolution was passed:

> *Resolved*, That it is of the utmost importance for accuracy in prescribing, and in the treatment of disease, that students of medicine be instructed fully as to those portions of the United States Pharmacopœia which are of value to the practitioner, and that members of the medical profession be urged to prescribe the preparations of that publication, and, further, that this resolution be forwarded to the medical and pharmaceutical journals, and to the teachers of medicine and therapeutics in the United States.

The motto for the recent graduate should become "Publicity and open dealing, the while prescribing the preparations of the U. S. Pharmacopeia."

I am ready to grant that natural conditions and means are assuming more and more importance in combating human ills. And while drugs have been practically abandoned in the treatment of certain diseases, notably tuberculosis, they have a distinct sphere of usefulness; and the decadence of the use of drugs on account of the rapid progress made by the science of hygiene in recent times is no good reason for carelessness and indifference in regard to their quality and ability. The medicinal agents employed by the physician then still form an important part of the physician's armamentarium, so long as he can depend on their proclaimed composition. It is obvious that from this point of view too little intelligent discrimination has been exercised in the selection of medicines in the past. Hand in hand with the progress of knowledge concerning the action of drugs on the human economy must go definite and accurate knowledge of the composition of the substances used in the treatment of disease. It is in this connection that the U. S. Pharmacopeia and National Formulary would contribute materially to future medical progress if they were made the subject of universal study and consideration among the physicians of the United States. It is earnestly hoped and believed that the rational outcome of the present movement which seeks to abandon indefinite, uncertain and variable preparations, will effect an increasing tendency

1. Anders, J. M.: The United States Pharmacopeia from a Physician's Standpoint: Monthly Cycl. Pract. Med., May, 1908.

to the use of the more reliable and unchanging preparations of the U. S. Pharmacopeia.

As a means of familiarizing physicians with these works I would strongly recommend future joint meetings between the many branches of the American Pharmaceutical Association and local medical societies. United action, if properly directed and maintained, would serve to promote materially the interests of scientific pharmacy. We have arrived at an era in the history of American medicine at which the trained pharmacist and the physician can each render important service to the profession of the other if granted a favorable opportunity.

Moreover, it is fitting that the medical profession should pay just tribute to the significance of the service which the National Formulary is rendering both to practitioners and to the larger public.

I find that many physicians are not acquainted with the contents, objects and meaning of the National Formulary. For the benefit of this class it may be pointed out here that this neat volume contains many excellent formulas for preparations, none of which have been as yet introduced into the U. S. Pharmacopeia, but which were formerly made after different formulas (in different sections of the county and also in the same city), and have come into established use, but have been brought, after much experimentation and labor by the committee on National Formulary of the American Pharmaceutical Association, to a common, authoritative standard. The above-named committee having accomplished the stupendous task set before it with success, it behooves the medical profession to cooperate whenever possible by accepting the formulæ contained therein, "instead of designating any special maker's product." It is not my intention to advocate the use of the National Formulary to the exclusion of prescriptions written at the bedside to meet the indications presented by individual cases, to which preference is to be given in the majority of cases.

It may well be asked why learned members of the profession should permit the use of their names by manufacturers of preparations foisted on the market solely for commercial reasons. Again, why should the information given to the medical profession by these manufacturers be regarded as authoritative and convincing by the rank and file of the profession? Wiley[2] has well said:

> We have reached a stage in the evolution of therapeutics and practice in which the physician can take a firm stand. There are plenty of remedies of known character to employ his entire skill and to furnish the munition of his therapeutic armament. There can be no excuse, therefore, for the recommendation or prescription of the secret, fake or unknown proprietary remedy.

In this connection of particularly evil omen for the attainment of this most desirable state of affairs is the strong tendency, already emphasized, to prescribe proprietaries. Physicians are too apt in prescribing to be controlled by motives of convenience, using the remedies that are brought to their attention and exploited by convincing hired agents, instead of taking the precaution and trouble to acquaint themselves fully with the official preparations so abundantly to be found in the United States Pharmacopeia and National Formulary. As a means of counteracting this subtle, widespread, yet influential tendency, a more intimate knowledge of the contents and aims of the United States Pharmacopeia and National Formulary would, I strongly believe, prove efficient.

The intention of the present paper is not to present a laudatory account in ornate phrases of the works under discussion, but rather to eradicate the curious notion which numbers of physicians of this country have that what is of first-rate therapeutic value is to be found outside, among the newer, unofficial preparations. If physicians could be induced to devote more of their energies to the study of the remedies that have stood the test of time a more healthful, robust, therapeutic tone would be the inevitable result. I am pleading for a spirit of unity among the members of the American Medical Association regarding this important question.

2. THE JOURNAL A. M. A., Nov. 9, 1907.

THE PHARMACOPEIA AS A LEGAL STANDARD.*

H. W. WILEY, M.D.
Chief, Bureau of Chemistry, U. S. Department of Agriculture.
AND
L. F. KEBLER, M.D.
Chief, Drug Division, Department of Agriculture; member of the Council on Pharmacy and Chemistry of the American Medical Association.
WASHINGTON, D. C.

Many years before the publication of the first edition of the United States Pharmacopeia it was recognized by the leaders of the medical and pharmaceutical professions that standards for potent well-known drugs were highly desirable, if not absolutely necessary for the proper treatment of human ailments. Tangible evidence of this feeling was manifested by the publication of a number of books by various authors which contained standards or descriptions of drug products of much value. The first edition of the Pharmacopeia appeared in 1820 and was immediately voluntarily accepted as the proper guide by both professions. Successive editions appeared decennially; and Congress in 1848 recognized this authority as the legal standard for drugs imported into the United States in the following language:

> If, on examination, any drugs, medicines, medicinal preparations, whether chemical or otherwise, including medicinal essential oils, are found, in the opinion of the examiner, to be so far adulterated, or in any manner deteriorated, as to render them inferior in strength and purity to the standard established by the United States, Edinburgh, London, French, and German pharmacopeias and dispensatories, and thereby improper, unsafe, or dangerous to be used for medicinal purposes, a return to that effect shall be made on the invoice, and the articles so noted shall not pass the custom-house, unless on a reexamination of a strictly analytical character, called for by the owner or consignee, the return of the examiner shall be found erroneous, and it is declared as the result of such analysis, that the articles may properly, safely, and without danger, be used for medicinal purposes.

The necessity of thus recognizing the Pharmacopeia had been emphasized by numerous investigations of medicinal agents which showed that a great number of inferior articles were imported into the United States. These examinations were largely stimulated by the activities of the Philadelphia and New York colleges of

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

pharmacy. The latter repeatedly called attention to the fact that large quantities of sophisticated and misbranded chemicals and pharmaceutical preparations were being daily imported. Attention was also called to the fact that a great variety of inferior drugs were passing the custom-house and that every possible effort should be made to prevent their introduction into this country. An examination of the conditions then existing showed that this country was considered the dumping-ground of Europe.

Soon after the enactment of the above law it was found that there was a lack of standards or methods for determining standards which made it difficult for the customs officials to enforce the law judiciously and satisfactorily. The descriptions contained in the Pharmacopeia were not sufficiently accurate and detailed to cause the detention of certain drugs of inferior quality; the construction of various sections of the book was not the same at the different ports; consequently action was not uniform.

On learning of these difficulties the various members of the pharmaceutical profession decided to assist in adjusting these annoyances by calling a convention of the colleges of pharmacy in New York City. The general belief prevailed that the law was ample to regulate the admission of adulterated drugs, but that additional standards were required. After full discussion the convention adopted standards for ten drugs which were forwarded to the Secretary of the Treasury with the recommendation that they be generally adopted so that uniformity would obtain at the various ports. These standards were accepted and proved highly beneficial.

This is the beginning of the adoption of actual legal standards for medicinal agents in this country. These standards proved highly beneficial and provided stimuli for the formulating of standards of other drugs and enlarging the scope and usefulness of the Pharmacopeia. During the past twenty-five years many state laws have been enacted which prescribe the Pharmacopeia as a legal standard. With few exceptions, however, little attention was given to drugs by state officials, and manufacturers and dealers were indifferent to the standards contained in this book and the activities of the state authorities. Many dealers advertised their own standards, which were arrived at by methods known only to themselves, thus making it very difficult for analysts to obtain the same results as those claimed.

June 30, 1906, this excellent authority of standards for drug products was officially recognized by the Congress of the United States in the passage of the Food and Drugs Act. Soon after its enactment the standards and methods of the Pharmacopeia were critically examined and tested by all affected. Defects, inconsistencies, unreasonable and improper standards were found in abundance. Never before was so much interest displayed or a book so critically studied. Numerous changes were insisted on and great pressure was brought to bear on the committee of revision by correspondence, personal interviews, etc., with what success can readily be seen by the number of corrections printed a year ago. Some of these changes were undoubtedly desirable, but in some cases the standard was materially lowered, and in other cases the tests were modified so as to render them inefficient. For example, it has been found that the modified test for detecting gurjun balsam in balsam copaiba is so inexact as to permit the adulteration of the latter with at least 35 per cent. of the former without the possibility of detection. Excellent as are some of the standards and descriptions contained in the Pharmacopeia, it should be pointed out that in many cases no provisions are made for excluding or permitting the admixture of any stems, sticks, sand or other extraneous and inert material with leaves, berries, bark or seed in either the whole or powdered state. For example, it is common to find from 15 to 20 per cent. of sticks and stems mixed with buchu leaves. The same is true of cubeb berries. Powdered drugs are adulterated with large amounts of sand, ground olive stones and inert foreign plant tissue. The adulterations in all cases here considered are so gross as to preclude the idea of accidental admixture. Various roots, seeds, leaves, etc., are at times mixed with inferior and spurious roots, leaves, seeds, etc. To what extent these foreign and inferior articles modify the physiologic action of the drug is undeterminable. The question frequently arises as to the advisablity of permitting the use of such admixtures. It is certain that if a preparation made from a crude drug of fine quality possesses certain therapeutic properties, the same physiologic action could not be expected from a product made from drugs sophisticated in devious ways. As an example, digitalis leaves of the second year's growth possess well known therapeutic properties, but the leaves of the first year's growth are supposed to be devoid of any material activity and the question naturally arises whether it is wise or advisable to deny entry to an importation consisting of a mixture of both of the above named leaves. In our opinion nothing should be left to chance with so important and valuable an agent as digitalis. No physician knowingly would jeopardize the life of his patient by employing this drug or any preparation made from it which he had any reason whatever to believe in any way deficient. He prescribes on the basis of a pure, efficient drug.

While the same argument may not apply with equal effectiveness to some other drugs, it is apparent that the therapeutic action would be modified to the extent that the drug is adulterated or of inferior quality.

Section 11 of the Food and Drugs Act reads in part as follows:

> " . . . and if it appear from the examination of such samples that any article of food or drug offered to be imported into the United States is adulterated or misbranded within the meaning of this act, or is otherwise dangerous to the health of the people of the United States, or is of a kind forbidden entry into, or forbidden to be sold or restricted in sale in the country in which it is made or from which it is exported, or is otherwise falsely labeled in any respect, the said article shall be refused admission. . . ."

The personnel of the Pharmacopeial Committee of Revision is such that their final acceptance and fixing of a standard for any drug product should be final. Any other construction placed on this authority would lead to endless confusion.

Under the above quotation from Section 11 we are firmly of the opinion that any article recognized by the United States Pharmacopeia which deviates from the standard set by this authority is improper, unsafe and dangerous for medicinal purposes, except in such cases where the product is used in the manufacture of articles which are subsequently standardized, or for the manufacture of certain definite principles, such as strychnin from nux vomica. Even in cases where the crude drug used in the manufacture of the preparations which are

subsequently standardized is so debased or of so low a standard as to preclude its use in the manufacture of pharmacopeial products it will not be considered as coming within the limits of the above statement. We are further of the opinion that a drug product which is forbidden to be sold or restricted in sale in the country in which it is manufactured or from which it is exported should be refused admission to the United States under this section. Any drug which is not good enough in the country of production or exportation for the treatment of its own people is certainly not satisfactory for a medicinal agent in the treatment of the people of the United States.

At present both the medical and pharmaceutical professions are making strenuous efforts to eliminate from their medical armament worthless and questionable remedies and are constantly turning their attention to the pharmacopeial products. The claim is frequently made that articles prepared according to the methods and formulae described by the Pharmacopeia are not uniform and it is believed by many that this non-uniformity is largely due to the initial character of the crude drugs used.

RESPONSIBILITY OF THE MEDICAL PROFESSION FOR THE USE OF NOSTRUMS.*

C. F. WAHRER, M.D.
FORT MADISON, IOWA.

In speaking of the shortcomings of the profession to a colleague some time ago he remarked, "Don't abuse the profession; we get enough of that from the old women and other enemies, most of which is unjust; but where it comes from you it comes doubly hard." My answer was and still is, we must begin reforms among ourselves before we attempt reforms among others, and as long as we repeat our sins my motto is: "Lay on Macduff!" Before we sweep other people's premises let us clean up at home and stay clean. There are but few of us who do not know the evils of the nostrum trade, both to ourselves as well as to the poor victims who suffer from it, yet do we not aid and abet this very evil? While there are but comparatively few of us who openly prescribe or dispense the so called "patent medicines," such as Jayne's Expectorant, Ayer's Cathartic Pills, Harter's Iron Bitters, or Pink Pills for Pale People, yet I heard a regular physician once lay great emphasis on the value of McLaine's Indian Root Pills or Wright's New Life Pills, both of them rank nostrums. There are thousands of doctors all over our country who prescribe or dispense stuff no better in quality and no better as far as the secrecy of the preparation is concerned.

It is a sad but too true comment when I say that more than half of the medical profession—including the best there are, professors in medical colleges even—prescribe remedies, the composition of which they are absolutely ignorant. Why do they do it? Is it because they are taught to do so while attending medical college in their studies in pharmacology and therapeutics? No? Why, then? It is because pamphlets and samples distributed by a wily, smooth-tongued detail man, who has learned to say his piece, has drummed this perverted system of therapeutics into vacant brains. It is like selling gold bricks or oil stocks; one man says thus and so, and one hundred men believe him.

When these "easy marks" look for the formula they don't find it—or find only a part of it, something like the following: Each ounce represents (not contains please remember, it *represents*) the active principles of peruvian bark, columba, crampbark and numerous other ingredients with aromatics so combined as to form a palatable preparation of the highest efficiency for the cure of all ailments of women, and it is especially useful in dysmenorrhea, amenorrhea, menorrhagia, metrorrhagia and all ovarian and other sexual irregularities and disturbances. Now, isn't this just what we all need and what we have all been looking for?

Well, it will sell; hundreds of physicians will buy it and try it on their patients, because the manufacturer sends samples prepaid or sends his salesmen, who say they are selling lots of it and that it is a good seller. Dr. Jones of Smithville has given an order for twenty gallons of it—and Dr. Smith of Jonesville wouldn't do without it and he is "making money hand over fist" out of it. While he is talking and getting the medical man jealous of Smith and Jones the physician forgets all about asking what the stuff is made of. Now I will ask: Who made and devised this wonderful formula? And in case the physician did ask or write for the formula he was merely told each ounce *represented* so much of so-and-so. For instance, to show how "muddling clear" this all is: Opium may be represented by morphin, narcein, dionin, codein, meconin, heroin, thebain or one or two or more of them! How would apomorphin do, for instance? Is digitalis represented by digitalin, digitalein, digitoxin, digitonin or what? I presume principally by what! And that will answer the purpose, will it?

But this is not the worst by any means. What does your patient get when you give him antikamnia? The company in St. Louis tells you *anti* means *against,* and *kamnia* means *pain;* so you are giving something that means pain killer. But I ask again, what is it? You don't know, yet you use it in your practice and advertise it, because every tablet has "A K" on it "so you will know that it is the genuine." I dare say more of this heart poison has been prescribed by the rank and file of the profession and medical college professors, who wrote testimonials endorsing it, than all other semi-proprietaries combined, yet no man knows to-day what's in it so far as their literature reveals to us. Aren't some of us ashamed, and if not, why not? I said no one knows what's in antikamnia. By analysis we are fairly sure that before the enactment of the Food and Drugs Act it contained in various proportion acetanilid, sodium bicarbonate, caffein and probably some citric acid. But now they are compelled by law to state that each package contains a certain amount of acetphenetidin, the pharmacopeial name for phenacetin. They also combine it with quinin, so you can write a prescription for "A K & Q," also with codein, so you can tell your patient to go to a druggist and get a dozen of "A K & C," etc.

How many times do you suppose any of your bright patients will return to you and pay you for telling them, or prescribing for them, those wonderful tablets with "A K & C" on them, that cured their headaches or coughs, or rheumatic pains, or moved their bowels, when they took "A K & C" with cascara? Not very often, when all they need is to save one of those embossed tablets and present it at the drug store with the request they want "ten cents more of those." Why do you blame your pa-

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908

tients when they quit you? They not only quit, but they divide their "A K's" and "Q B & S's" and other embossed cure-alls with their suffering neighbors while detailing their ailments over the back fence. You have sown the wind, now reap the whirlwind; you have boomed Scott's Emulsion, allowed it to go to your patient with fifty pages of "literature" wrapped around it, till they know just how and when to use it, till it became a household word, and they come no more to you for a prescription. The makers know it, too. They no more care a rap whether the doctors prescribe it or not. They have become millionaires, advertised it on fences and out buildings and in the daily papers, among "youthful indiscretions," "lost manhood" and "female regulators." Can you figure out why your practice is not what it used to be? After you have made the discovery, pass it along to some other fellow who has lost his where—am—I—at. Then before old age overtakes you hunt up your materia medica, your book on therapeutics, where you left off in school twenty or thirty years ago, and learn to prescribe standard preparations that will give you results at less than half the price. Don't try remedies on your patient, something of which you know and more of which you know you don't know, and then expect results. If you are sure your patient needs strychnin give it in 1/60, 1/30 or 1/20 grain doses every three, four or five hours, then you ought to get definite results. If you want to give quinin, give the exact amount your judgment dictates at stated intervals, and you have a right to hope for definite results. Don't give Dad's quinin, bromo-quinin or a similar mess, because you don't know what either of them is, and can't expect any definite results. If you want to give a mixture of quinin, strychnin and digitalin, give a certain amount of each at regular intervals. Don't use instead an unknown mixture which the label says represents the active principles of Peruvian bark, nux vomica and foxglove, because even if the label is truthful you don't know what active principles were selected by the maker or whether any were used at all.

I have lectured extensively on this matter and on the object of food adulterations, and the more I study the subject the more I am convinced that I am making no overstatement but am merely touching the high places. My friends from the metropolitan centers may claim these things are only true of country doctors and small towns. No greater error exists. Go into any popular, first-class drug store in New York, Philadelphia, Boston, Chicago, San Francisco, New Orleans or St. Louis, places to which fashionable physicians send their prescriptions, and you will be astonished at the large percentage of prescriptions that contain secret or semisecret, ready-made preparations with meaningless names, the formulas of which are unknown or but partly known to the prescriber. A physician of high standing, a former professor of obstetrics in a state university medical college, wrote a prescription containing haarlem oil, satyria and neurilla. He did not know the component parts of any one of the three items. Another wrote a prescription forming a horrid mess, containing acetanilid, antikamnia, quinin sulphate, sodium salicylate, tincture of the chlorid of iron and yerba santa compound. The patient had an acute attack of influenza with rheumatic pains, and this wise doctor was going after all the sore spots in his patient, so as to be sure to make a hit somewhere. It was a villainous mixture of known and unknown stuff, but the patient had sense enough to refuse to take it. Go into any drug store and notice how the shelves of the prescription department are literally groaning under the weight of the proprietary semisecret remedies, almost to the exclusion of the simple, standard, well-known remedies.

To make this matter concrete, I went into one of our best and most popular pharmacies, and by the courtesy of the proprietor I found the following, to show you merely as an example of hundreds of others. In one group stood listerine, crystalline, pasteurine, glycothymoline, glyco-benzole, formalyptol, thymoline, euthymol, thymoliptine, borolyptol, Wampole's antiseptic solution, therapogen and many more imitations, all of which could be easily supplied at less than half the cost by the Liquor Antisepticus of the U. S. Pharmacopeia. All of these the druggists must have on hand, to satisfy the whims of the different physicians who don't care to take the trouble to inform themselves that all these so-called antiseptics are practically identical, answer the same purpose, and but few of them are any better than a saturated solution of boric acid, worth ten cents a pint; and nearly all of them are semisecret. Another instance. There is uric antagon, whose label says it contains the *active* principles of phytolacca dec., seranoa serrulata, styllingia sylvatica, cimicifuga rac., and aconitum napellus a mere trace, not enough to depress the heart. This is sold you as a uric acid solvent. But you are not told how much of each ingredient it contains, nor which active principles are used. Oh, no; yours only to do as you are told.

Isn't this an insult to an intelligent profession? When the uric antagon man came to my office, I ordered him out and threatened to throw his sample out of the window if he didn't take it away. He did not wait long enough to be told twice. Then there is uriseptin, that professes on its label to cure nephritis, albuminuria, dropsy, enlarged prostate, pyelitis, retention of urine, enuresis, gonorrhea, blenorrhea, and any other sexual or urinary ailment. The label says it contains formaldehyd, lithium, corn silk, couch grass, and 6 per cent. of alcohol. No quantities are given for fear some imitator may tap their gold mine. Any physician, however, that has sense enough to prescribe for a case of chickenpox, can easily supply the quantities and have it put up at a drug store at one-fourth the price the makers ask. Tongaline (Mellier), we are told by the label, contains certain quantities of tonga, cimicifuga, salicylate of soda, colchicum, pilocarpin and 33 per cent. of alcohol. No quantity is given except the alcohol, which the Food and Drugs Act compels them to publish. A simple prescription by an intelligent physician at less than half the cost would answer at well, if not better.

Anasarcin, a tablet sold by a Tennessee firm, and Anedemin, a similar one put out by another firm, are both sold at fabulous prices. They contain sourwood, squills and elder flowers and are easily replaced by a tablet made by any reputable firm at $3 a thousand, or for about what the exploiters sell theirs a hundred. The formula given by the ethical houses for a similar tablet is, extract sourwood leaves, 2 gr.; extract elder flowers, 2 gr., and extract squills ¼ gr., which shows just what you are giving, and also shows the contents to consist of inexpensive material. In my hands they have served an excellent purpose and are a splendid substitute for the secret, robber-price goods, and I know just what I am giving.

You may say to me: Would you not have any ready-made formulas, and thus deprive us of the convenient and often efficient preparations? They are an especially

useful lot of preparations to the busy dispensing physician, and some of them are not only difficult but well nigh impossible to make up extemporaneously on short notice, even by the most skilled pharmacists. This is all true, and I am myself a great friend and user and even dispenser of many of them, and recognize their convenience as well as their efficiency. But I buy them of houses that are honorable enough to give me and my patients a square deal by publishing the entire and exact formula, and selling them at prices that are fair and equitable to themselves and to me and my patients. I don't want the label to tell me merely that a certain package contains Early Risers, Little Devils, Sun Cholera Cure, Cascarets (that work while you sleep), Seng, a preparation of ginseng, Sanmetto, said to be composed of true sandalwood and saw palmetto and soothing demulcents; glycozone, whose formula is given as $C_3H_6O_4+C_3H_8O_3$, which, of course, is as clear to you as Missouri River mud. It is as plain as the two isomerics, oil of turpentine and oil of lemon. Both contain the same elements in the same quantities; yet you wouldn't prescribe the one for the other. Why, it is a deliberate insult—an effort to throw scientific sand into your eyes!

Their common atomic formula is $C_{10}H_{16}$, which also is the formula of safran, the pleasant odor of sassafras, and many other pleasant odors of the volatile group. So, you see, whenever these manufacturers offer you only the atomic formula, you can be assured they are "playing horse with you." No self-respecting physician who has the good of his patients at heart will be satisfied with any remedy that offers him a fake formula or only partial one. I now copy at random some of the labels on the bottles in my office. For instance the well-known elixir of bromid compound, or hypnotic compound; each ounce contains chloral hydrate 120 grains, potassium bromid 120 grains, extract of hyoscyamus 1 gr. and extract of cannabis indica 1 gr. This is a convenient, efficient elixir; you know just what and how much you are giving and what to expect. Is'nt this better than prescribing Bromidia, said to contain the same ingredients in unknown quantities, a scant 4 oz. bottle of which is sold for $1.00, while the elixir bromid compound with full formula sells by the best houses for $1.20 a pint. Of course, you are at once told the quality is not so good. In answer to this just ask yourself why it shouldn't be? You will at once come to the conclusion that the first class pharmaceutical houses will put, to say the least, just as fine and pure drugs into their preparations as the Keysall Co., the Antikamnia Co., the Anasarcin Co., the Rio Chemical Co. the Aetna Chemical Co. and the hundred more such people, who don't even give the names of the individuals composing the fanciful firm names behind which they are hiding. Reputable firms put up an elixir of saw-palmetto and santal compound which beats Sanmetto, put up by the Od Chemical Co., to a standstill. Reputable pharmaceutical houses offer a formula like this:

Saw-palmetto berries	120 grains.
Sandalwood	30 grains.
Corn silk	120 grains.

in each ounce of the elixir.

Now you know what this is. Can any one tell what's in Sanmetto which sells for $8.50 a dozen half-pints, while the elixir sells for $5.25 a gallon? What results can you expect when you give an unknown remedy? It is like a man closing his eyes and firing a gun promiscuously into space and then opening his eyes to hunt what he may have hit. Wouldn't it be better if he would hunt his game first, know what kind of a gun he has, know just what it is loaded with, and take careful aim before he pulled the trigger? And a good rifle is better than a scattering shotgun when you want to do precise work.

Then, also, wouldn't single remedies, preferably the alkaloids, and active principles, freed from the dirt and dross with which they are often associated in nature, be more satisfactory than crude galenicals of variable strength? Do you hesitate to answer? The formula for the old Warburg's Tincture, an antiperiodic, contained over 100 ingredients—127, I think, was the full number—of which 90 per cent. could be fully dispensed with. If you want strychnin effect, why prescribe nux vomica? If you want quinin why give the nasty, bulky Peruvian bark? If you want to give morphin or codein, why give opium? And so on, a thousand times could I give you examples only to take up your time. But a hint to the wise is sufficient.

What is the remedy? There is one, and I will tell you. Study your Pharmacopeia, your U. S. Dispensatory, your National Formulary and some modern works on materia medica and therapeutics; renew these every five or ten years. Supplement these by the best authors on practice, pathology and diagnosis, and read a few of the best medical journals — not the advertising pages only; attend your county, state and national medical societies, and you will know more medicine in five years from now than you could get in fifty years by reading proprietary medicine pamphlets and cheap medical journals, whose print isn't worth the paper used in binding.

Do you ever read in your standard books on practice, such as Osler, Flint, Anders, Tyson, Bartholow, Nothnagel, Holt and others just as good, that they recommend such slush as the *Medical Brief* has prescribed for you during the last quarter-century? What would happen to a physician who would read a paper before a decent medical society in which he would extol the virtue of such stuff as anasarcin, ecthol, syrup of figs, castoria, sanmetto, satyria, Dad's specific, exalgine, thermol, antikamnia and Micajah's uterine wafers? What would happen to him? Then why use such things? If it isn't decent to write or talk about them or recommend them, why use them surreptitiously? Can you give yourself such an answer as you would be willing to publish over your signature? I think not. In fact, I know you can't.

Now a word by way of suggestion. You may ask how you can distinguish between the good and the bad proprietary pharmaceuticals. One way is to insist on the full, complete formula. Some houses tell you they will not publish the formula on their labels, but will send it to you on request. That will not do. In the first place, they seldom do it when you ask for it; I have tried them. They usually send you a garbled formula giving only some of the ingredients. Besides, the "patent medicine" people will do the same. They will send you full and complete formula on request; in fact, the Ayer people have succeeded in getting several "snide" medical journals to carry their advertisements in which they challenge the admiration of the unwary by publishing a full formula. But we know their past record. I could give many more hints, but the best rule of all is to pay some attention to these things, and in a short time you will be able to recognize fraudulent proprietaries as quickly as a turkey-buzzard can scent a dead sheep.

Lately a very efficient source of help and instruction has made its appearance which will assist you very ma-

terially to distinguish the true from the false, no matter whether it is made in St. Louis or whether made in Germany and recommended by Doctor Herr Geheimrath von Ladislaus Ober-Schaffhausen, or it may be Mr. Updigraff-Jones of Holborn Viaduct, London. This is the laboratory reports of the Council on Pharmacy and Chemistry of the American Medical Association, whose work is recorded every week in THE JOURNAL of the American Medical Association. While some think the findings of the council may not always be final, nor their recommendations unbiased nor unprejudiced, yet it is making some people sit up straight and take notice. Every week there is given the results of examination and analysis and claims put forth by the manufacturers of certain articles such as I have mentioned to you in my paper. Recently they discussed Kutnow's Powder, probilin, the active principles of ergot, Dr. Robert's very ethical (?) hydrocine, the "positive consumption cure," vin mariani, the organic irons and others. Whatever you may think of their conclusions, you can't help acknowledge that you were instructed and interested. This alone will prove a death blow to quackery.

One thing is certain, there is no good reason why proprietary manufacturers of secret and semi-secret medicine shall wax fat at your expense and that of your patients, while some of you can scarcely make a decent living, clothe yourself and wife and children properly, and educate the latter as becomes their station; while farmers, bricklayers, carpenters and street sweepers are laying up money at an expense and outlay simply of muscle.

A learned and exalted profession must ever maintain its self respect in order to command the respect of others. As social factors in the world's progress, as heralds of good tidings of a better life, as scientific exponents of a higher civilization, in stamping out disease, epidemics, pests and contagion, as carriers of the gospel of health and happiness into the remote portions of the earth, as advance agents of the higher creed of humanity, the medical profession stands first and foremost and second to none.

As such we can ill afford to play second fiddle to a lot of nostrum fakers. Let us be worthy of the high place our profession has ever occupied among the people, and what we have not yet attained that we deserve; let us demand it by reason of our usefulness, our conduct with our fellow men and our self respect.

In the language of one of the immortals, let me admonish you—

> "This above all: To thine own self be true;
> And it must follow as the night the day,
> Thou canst not then be false to any man."
>
> —Shakespeare.

1007 Fifth Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. SOLLMANN, ANDERS, WILEY AND WAHRER.

PROF. JOSEPH P. REMINGTON, Philadelphia: At no previous meeting of the American Medical Association which I have attended has the subject of the U. S. Pharmacopeia been given so much attention. I was present at the very first meeting of this Section, to which a few representatives of the American Pharmaceutical Association were invited by the American Medical Association. At that time the meeting was very small; sometimes five or six, sometimes I think two were present, the chairman and the secretary. This discussion on the United States Pharmacopeia shows an intense interest in this work. To awaken an interest in the U. S. Pharmacopeia in the past, papers have been read here in the American Medical Association and before medical societies all over the United States, and in the Convention for the Revision of the Pharmacopeia the members of the medical profession were asked and begged to come to the meetings. The fact remains that the members of the medical profession have not cared for the Pharmacopeia in the past. But they are coming now. To many of Dr. Sollmann's suggestions in regard to the method of revising the Pharmacopeia I can say amen. Few pharmacopeias are revised oftener than once in ten years. The French Codex is sadly in need of revision, but they are at work at it now. So far as the time of revision is concerned, the United States is not far behind other nations, but in all foreign countries the pharmacopeias are legal standards, and the U. S. Pharmacopeia was not made a legal standard until the Food and Drugs Act of June 30, 1906, made it such. The Committee of Revision has been approved by the government. My secretary has half a peck of commendatory letters from many sources; some say that the method of revising the U. S. Pharmacopeia is the best that has been devised. It is curious that many Americans want to change the method of revision while Dr. Tyrer, the president of the British Pharmaceutical Conference, says that the United States Pharmacopeia is better than theirs. I think that the majority of the Committee of Revision would vote for a revision once in five years. The Board of Trustees of the Pharmacopeial Convention have already expressed themselves in favor of a more frequent revision. It has also been proposed to revise the Pharmacopeia once in three years; but such a pharmacopeia would be a menace to the makers of all kinds of preparations and would encounter a great deal of opposition because three years is too short a time to test fairly the various preparations. It would certainly cause great confusion in the medical profession. Physicians would no sooner become used to a preparation and learn how to use it than they would find that it was either abandoned by a new Pharmacopeia or its strength changed, and they would have to forget the old and learn the new. The United States Pharmacopeia revised only once in ten years is not known as it should be. It seems to me that the good middle ground of five years would be most satisfactory. It is true that a supplement was issued to the French Codex, the British Pharmacopeia and others. There is a great disadvantage about supplements in the back part of the book, namely, that they are apt to be overlooked. A great many men use the Pharmacopeia as they do a dictionary or encyclopedia, since subjects are arranged alphabetically and the index is ignored. If a revision were made once in five years, however, there would be no need for a supplement.

I was sorry to see in one of our western publications an allusion to the Star Chamber method of conducting the work of the revision of the Pharmacopeia. A work of such magnitude as this involves grave responsibilities. Every effort was made to find the will and the wish of the greatest number. There was no secrecy whatever about the work. The most modern methods were used in order to obtain the opinions of individuals and organizations and to arrange the information when obtained. The whole matter was then thoroughly sifted by the chairmen, the subcommittees and the general committee. It must be remembered that the committee is confronted with an enormous task in deciding between various earnestly advocated preparations and modifications. Laboratory work has been used most largely; the committee and subcommittees have had processes tried repeatedly by many workers and experts. Please remember that the U. S. Pharmacopeia can select only one method as a rule. It is impossible to satisfy all who are interested. A committee should be appointed in whom faith can be reposed and the responsibility should be left to them. Some one recommended that every proposition affecting the Pharmacopeia be submitted to the county medical society of each county in each state, they to consider the subject and to forward their decision to the Committee on Revision. Now how long will it take to issue a Pharmacopeia after hearing from every county society in every state in the union? If that is done the next Pharmacopeia might be issued in 2016. Dr. Sollmann advocated publishing conclusions every four months. Could the Pharmacopeia be issued in three years under those conditions? Is it possible to get out a book in three years when all these propositions are to be laid before the country in advance? But

the suggestions and propositions are now in order for the next revision. Let the committee settle them as far as possible. It is not generally known that the U. S. Pharmacopeia is controlled by a Board of Trustees and that the U. S. Pharmacopeial Convention has a charter from the United States. Its officers are permanently charged with the duty of revising and issuing the U. S. Pharmacopeia. A remark was made implying that the assignment of work had been done hastily. Twenty-six members composed the Committee on Revision. It took fully six months of the most careful painstaking effort of Dr. Charles Rice, the former chairman of the Committee of Revision to arrange and assign work to the members of the fifteen subcommittees. Then, again, delay was caused by the death of some of the members and consequent reorganization. The idea of placing more dependence on the chairmen of the subcommittees is certainly an excellent one. No doubt there will have to be radical changes in the work of the Committee on Revision. If revision is made every five years it must necessarily mean a change in the construction of this committee. The plan on which the work is conducted is one devised by Dr. Rice a number of years ago. It required approximately 2,260,000 words used in general committee official correspondence alone. But the chairmen of the subcommittee as representatives should be given more influence in the general committee than other members because of their greater special knowledge. The Committee on Therapeutics was charged with the duty of reporting on the admission or exclusion of drugs. Exclusion is as important as admission. When a preparation is expunged the committee is going to hear in no uncertain tone from the men who have used it for years and years because the Pharmacopeia is for use in Georgia or California, as well as in Chicago or Washington. The whole country must be considered.

Let us welcome every suggestion that can be made for the improvement of the Pharmacopeia. The Committee on Revision and the Board of Trustees have not and never had the remotest intention to slight or ignore the physicians of this country in the work of revision. In the constitution and by-laws of the U. S. Pharmacopeial Convention ample representation is given to the medical profession. I know that on May 2, 1910, when the next Pharmacopeial Convention meets in Washington the members of the American medical profession are going to be there and we are not going to be troubled with lack of interest hereafter.

MR. M. I. WILBERT, Philadelphia: I believe that the pharmacists of this country are to be congratulated on the fact that the members of the medical profession have again awakened to their duty in relation to the Pharmacopeia. If medical practitioners will but study the history of the Pharmacopeia they will take an even more active interest than is present indicated. While it appears that there is but one pharmacopeia which has been revised in much shorter time than our own, there are a number of reasons why other pharmacopeias have been delayed. The German Pharmacopeia was issued within one year of the time the revision was authorized, because the revision was made before the authorization to publish took place. Germany has a standing revision committee which is constantly at work. At the present time the German Pharmacopeia is being actively discussed, and it is probable that the next revision will be issued within six months of the time the revision is authorized. The revision of the Swiss Pharmacopeia, it is true, took five years. This was due, however, to the entire reorganization of the methods of revision. The Swiss Pharmacopeia was originally a book devised and revised by the Pharmaceutical Society of Switzerland. The present pharmacopeia is the first that has been legalized as the standard and also the first in the revision of which medical men took part. The Swiss have adopted a method that appears commendable and one that is well worthy of being followed by our own Pharmacopeial revision committee. In addition to possible corrections, provisions have been made for a complete revision in a very short time. The method of revision outlined by Dr. Sollmann appears to be somewhat complicated, but, on closer study, might prove itself to be comparatively simple. The revision committee of the Swiss Pharmacopeia depends on nine chairmen of subcommittees. These nine chairmen are responsible for the work, each man being individually responsible for the work in his department. The chairman of a subcommittee apportions the work out to members of his own choosing and they refer it to men who are supposed to work with them. The completed work is then referred to the chairman of the subcommittee and the chairman of the subcommittee subsequently refers it to the committee on editors. There are, of course, many things that some of us do not like in our own Pharmacopeia and many things that others do not like in foreign pharmacopeias, but we can not expect to get a pharmacopeia that will please all of us. The one thing to do is to get a pharmacopeia which will please most of us. I believe that the U. S. Pharmacopeia of 1910 will be the best that has ever been published in this or in any other country.

DR. ROBERT A. HATCHER, New York: A year ago a resolution was offered, asking that a committee on the Pharmacopeia be appointed from the American Medical Association. The duties of the committee were outlined in a paper presented by Dr. Osborne. I was appointed a member of that committee, and while I recognized a good many of the shortcomings of the Pharmacopeia, I had rather a vague idea of the way to remedy some of these evils. I thank Dr. Sollmann, not for myself alone, but for the other members of the committee, for pointing out ways to approach the solution of some of these difficulties. Dr. Sollmann spoke of cooperation of medical bodies if they were assured that cooperation was desired. That assurance has been given. The chairman of the Committee on Revision of the Pharmacopeia has shown unequivocally how glad the committee is to receive suggestions. If each man in this audience becomes a committee of one to arouse a general interest in the county and state societies much good will result. These separate county and state societies need not send individual reports, but they can express their views through delegates in the coming convention. Dr. Sollmann spoke of unscientific preparations and preparations not found in the Pharmacopeia. The two terms should be synonymous; the Pharmacopeia must be made to contain every thing which rightfully should be prescribed. If the medical profession expresses itself intelligibly the Pharmacopeia will represent everything that is necessary. I believe that if we as individuals singly and collectively are recreant to our duty toward the Pharmacopeia, the government will cease to sanction it. I believe that the government which sanctions that work will take it over into its own charge.

I think that Dr. Sollmann's suggestion of frequent partial revisions or supplements to the Pharmacopeia is entirely feasible. The work of the Council has shown that it is not at all difficult to make constant additions to "New and Non-official Remedies," and that little work has gone through three editions. There is no reason why a substance should wait more than one week after it is subjected to crucial tests and it is decided that it shall be made official; it should be made official that very day, not in a year. Frequent revision does not necessitate frequent revision of everything in the Pharmacopeia. There is no reason why phenacetin should be kept out four or five years for fear a change would be made in the method of manufacturing fluidextracts and preparations in general.

DR. REID HUNT, Washington, D. C.: The committee on the Pharmacopeia to which Dr. Hatcher has referred has met and outlined a course of action. I hope that this committee will become the clearing-house for the views of physicians in regard to the Pharmacopeia. We shall be glad to have suggestions from anybody who will care to make them as to the physician's part in the Pharmacopeia.

PROF. W. A. PUCKNER, Chicago: The work connected with the revision of the Pharmacopeia is going to be much less than heretofore. More scientific work is being done today. At the last revision I was frequently consulted in regard to certain lines of work; the committee with which I was associated had to do a great deal of experimental work. Now a great deal of work of this kind is being done. The work of the Council on Pharmacy and Chemistry no doubt will be of the greatest value in the revision of the Pharmacopeia. The Council is testing the new drugs and trying to

establish standards for them so that if they are found worthy to be admitted to the Pharmacopeia the standards will have been worked out. The Council has been attempting to establish uniform standards for certain classes of preparations. It urges manufacturers to provide, at the same time that they introduce a new drug, a method of demonstrating its purity and strength. In this way I am sure that the next revision of the Pharmacopeia will be much simpler and it will take a much shorter time to get it out because of the preparatory work which is being done throughout the United States at this time.

DR. C. S. N. HALLBERG, Chicago, Ill.: As I have said before, the United States Pharmacopeia approaches more nearly the status of an international pharmacopeia than any other. If we were to make a synthesized combination of the leading pharmacopeias of the world we should then probably have a pharmacopeia that would comprise most of the articles prescribed in this vast country. Yet it would have to go beyond this to provide for the profession in our insular possessions and would possibly require a Spanish edition—which, by the way, has been taken care of already by the trustees. I believe that the Spanish translation of the U. S. Pharmacopeia is now ready for distribution. But the great question has always been, What shall go into the pharmacopeia and what shall be placed under the ban? At a preliminary meeting, for example, some one objected to the inclusion of Emulsion asafetidæ on the ground that it was an obsolete remedy; but, on the testimony of a Philadelphia physician, who found it of value as a rectal enema, it had to be kept in the Pharmacopeia. The trustees of the Pharmacopeia have arranged for the publication of a sixty-four-page booklet comprising the titles of the Pharmacopeia, the National Formulary, the "New and Nonofficial Remedies" and some unofficial titles, representing almost 2,000 titles. It is intended to circulate this all over the United States and have pharmacists check off from their prescription files 1,000 consecutive prescriptions. If we get 1,000 of these books filled we shall have statistics on what has been prescribed throughout the United States on 1,000,000 prescriptions by the time the next committee is formed two years from now. Then for the first time the Committee on Revision will really know just what is being used in this country. As to whether we should put in what is being used or what the leading medical authorities think ought to go in, that is another proposition. The U. S. Pharmacopeia, I think, should contain every reasonable medicine that is being used extensively by the medical profession. I believe that it is not the function of the committee to say whether or not certain popular pharmaceutical compounds, such as the compound syrup of sarsaparilla and camphorated tincture of opium, are inert or have no therapeutic virtue. I believe that the U. S. Pharmacopeia is fully equal, if not superior, to any pharmacopeia of the world. An unfortunate delay in the getting out of the last pharmacopeia occurred chiefly because we had to enter on a new line—the introduction of the serums.

DR. BERNARD FANTUS, Chicago, Ill.: The Pharmacopeia, as now issued, is eminently adapted for the guidance of the pharmacist, but of little use to the practicing physician. It seems to me, however, that a "Physicians' Commentary on the Pharmacopeia" is something that would be eminently desirable. An authoritative book might be issued by some representative body, such as the American Medical Association, in which the physician could find the practical information which he needs in prescribing drugs. If, for instance, in describing the taste and odor, the best disguises for these were suggested; if solubilities and incompatibilities were discussed in detail; if the best methods of administration were given, as well as full information on dosage, frequency of repetition of dose, etc., we should have a book that every physician would want and study. I hope that some means will be found to have such a book issued by the American Medical Association before very long. An attempt in that direction has been made in the "Physicians' Manual of the U. S. P. and N. F." This little book is excellent as a beginning; but, I believe, it does not give quite enough information.

I wish to defend the teachers of materia medica and therapeutics. They are usually among the least influential members of the faculty. Their courses are generally crowded down into the freshman and sophomore years of the medical curriculum, and given the minimum of hours required by the state boards, which, as has been my experience as a teacher in this branch, is less than one-half of what is absolutely necessary in order to do creditable work. It has cost me a great deal of effort to get more adequate recognition for the branch in the school with which I am connected. I hope that Dr. McCormack's suggestion of this morning will be acted on, and that the state boards will recognize the importance of the teaching of this branch. Joint meetings of physicians and pharmacists ought to be held frequently, at which important drugs might be discussed, both from the standpoint of the physician and from that of the pharmacist.

DR. M. G. MOTTER, Washington, D. C.: The next Pharmacopeial Convention is now not two years off. Before the American Medical Association shall again assemble the call for the appointment of delegates to the convention of 1910 should have gone forth, and, as a member of the committee on credentials, I wish to emphasize what has been said about the utter indifference of the great majority of the medical profession to the Pharmacopeia, both as to attendance at the convention of 1900 and the fact that the proceedings of that convention show reports from not more than a half dozen medical organizations in this country with reference to the subject. It seems to me that imitations of such heterogeneous mixtures as are marketed by certain trade combinations should scarcely have place in the Pharmacopeia of 1910. I should like to see every committee on the Pharmacopeia take up this question.

DR. ALEXANDER S. VON MANSFELDE, Ashland, Neb.: It is an old saying that everybody's business is nobody's business. I have had the honor of acting as the presiding officer of the House of Delegates of the Nebraska State Medical Association since its commencement, and I have not seen any communication from the Committee on the Revision of the Pharmacopeia. I do not need to assure you that if anything officially had come to us it would have been taken care of. I mean to say that there ought to be some step taken by this Pharmacopeial Convention, besides notices in the newspapers and journals. Official letters should go to the state associations to call for the assistance required. So far as Nebraska is concerned, it will be given.

DR. TORALD SOLLMANN, Cleveland, Ohio: It is a great satisfaction to me to obtain the ideas of the chairman of the revision committee. I feel that a great many points on which we are at odds are matters of misunderstanding. For instance, Professor Remington misunderstood me when he thought I said the pharmacists had too large a representation. Not at all. I think that the Committee on Revision proper should consist almost entirely of pharmacists. Another misunderstanding was apparent in Professor Remington's statement that the revision committee would be indefinitely delayed if it should write to the county medical societies and give them opportunity for reply. It was not in my plan to wait indefinitely, but only to give reasonable opportunity and encouragement. I do not see why this should delay revision in the slightest degree. As to the frequency of revision, I agree that as soon as it becomes plain that a thing should go into the Pharmacopeia, there should be no delay. I think that five years is too long to wait. As to the publication of supplements, reference to my paper will show that I did not intend to have these placed in the back of the book where they would not be seen. Professor Remington explains that most of the power as to admission was left to the therapeutical members. This is very well, but it is accidental, as there is no definite rule. I believe that the admission committee should be elected directly, independently, but to work in association with the Committee on Revision as I have outlined. As to subcommittees, Professor Remington explained that six months was occupied in assigning each man to his place; that the method has been a most careful one. It is quite conceivable, however, that a suitable man for each position would not be available in the revision committee, when this is elected at large by a general convention which is not instructed as to which place

each member is to occupy. Direct election would again seem a simpler and surer method.

PROF. J. P. REMINGTON, Philadelphia: We have the right to call on any expert in any branch. All that the committee has to do is to ask for such a man and the request is put to vote. For instance, we had an expert from Montclair, N. J., an authority on volatile oil. In nearly every subcommittee experts were employed and the men we have asked to help have never refused.

DR. C. F. WAHRER, Fort Madison, Iowa: My paper contained much censure. I wish, therefore, to say that the work of the Council on Pharmacy and Chemistry, which is publishing its deliberations weekly in THE JOURNAL, is one of the best means that has been put forward thus far in order to cure the evils I have mentioned. One man may lead a horse to water, but 20,000 can not make him drink. If pharmacopeias are revised every five or ten years, or oftener, the very people who should read them will not. What can we do with them? The American Medical Association can wield a great influence; there are 32,000 members now, I am told. They will finally overcome these miserable trade journals, some of which since they became rich have become good. Let's keep up a constant warfare. It means a campaign of education, and I trust we shall keep at it until the body politic of medicine, which is now like an evil sore, is cleansed.

A FURTHER CONTRIBUTION TO THE HISTOPATHOLOGY OF PARAFFIN PROSTHESIS.*

M. L. HEIDINGSFELD, M.D.
Dermatologist to the Cincinnati Hospital.
CINCINNATI, OHIO.

In September, 1906, I presented to the ninth congress of the Deutsche Dermatologische Gesellschaft a report of the histopathologic changes which paraffin underwent in two cases in which prosthesis had been performed by two self-styled dermatologists or "beauty doctors" for cosmetic results. I report herewith some further clinical and pathologic observations in one of my earliest prosthetic cases:

CASE REPORT.

History.—Miss H. S., aged 11, presented herself in May, 1904 for cosmetic correction of a number of facial cicatrices resulting from chickenpox, incurred when she was 8 years of age. From May 16 to June 17, 1904, twenty cicatrices of varying size and depth, situated over various portions of the face, were carefully obliterated with hypodermically-placed paraffin (melting point 52 C.), under cocain anesthesia. The paraffin was injected in a fluid condition by means of a powerful metallic syringe, which, together with its contents, was immersed in hot water immediately prior to each injection made. The paraffin employed was specified to be of one definite melting point, but there is reason to believe that it was composed of a mixture of paraffin of high melting point and oil of vaselin. The immediate results obtained in the case were excellent; the injections were made without incident, and with relatively little inflammatory reaction. When the patient presented herself on October 5, 1907, after an absence of over three years, the cicatrices were again evident almost to their former degree of depth and outline, and much more disfiguring in their character, for the reason that all of them were considerably pigmented, and surrounded with a faint zone of mild inflammatory reaction. The disfigurement was more pronounced than at the time when prosthesis was first attempted, and of such a character that an extirpation of some of the larger and more prominently situated lesions seemed imperative. One of these lesions was removed October 12, 1907, and forms the basis of the subsequent report, which conforms in nearly all particulars to those observed in the two cases previously reported and to cases of the same general character thus far recorded in the literature.

Histologic Examination.—The epidermis is normal except for a slight proliferative activity confined to small areas of the lowest interpapillary germinal cells of rete mucosa. The same degree of activity is noted in the epithelial cells of the hair follicles and sweat glands, whose orifices are moderately distended with keratotic exudate. The sebaceous glands are hypertrophied and envelop their respective hair follicles on all sides. The sudoriferous glands show a moderate cystic dilatation, and endothelial proliferation. The cutis shows no pathologic change except a moderate degree of vascular exudate centered about the smaller capillaries. The prosthetic area is encapsulated with a wall of connective tissue, and is the site of numerous cavernous spaces, which give the specimen under low power a honey-comb appearance or that of a well aërated piece of Swiss cheese (Fig. 1). The spaces are the site of paraffin in unchanged or slightly changed form, removed by the alcohol and xylol in the process of hardening and clarification. Many of the smaller spaces are only partially obliterated and contain flattened degenerated cells and leucocytes. Most of the spaces are surrounded with a dense wall of infiltrating leucocytes and loose connective tissue, which imparts to the specimen the appearance of a granuloma not unlike that of tuberculosis before caseation manifests itself.

The presence of numerous giant cells intensifies the resemblance to tuberculosis. Under higher power the prosthetic area is seen to be made up of cellular elements, which are grouped in alveolar form and surrounded by a mesh-work of loose areolar, inflammatorily infiltrated connective tissue. The alveoli contain a large number of cells and degenerated cellular products and an extensive infiltration of leucocytes. The cavernous spaces are surrounded with a thick infiltrating wall of leucocytes. The smaller partially occluded cavities are observed under high power to contain masses of flattened degenerated cells, with here and there an occasional leucocyte. The distinguishing and characteristic pathologic changes are the Swiss-cheese-like general appearance under the low powers of the microscope, the alveolar-like distribution of the inflammatory products and the abundance of giant cells.

THE PATHOLOGIC PROCESS.

The pathologic process which a disintegration and removal of the paraffin by leucocytic action is effected as follows: The paraffin when injected is distributed in strands along the lymph spaces, and between cellular structures, and here and there *en masse* by the rupture of tissues and their forcible distension. Its presence as a foreign body excites a reactionary inflammation sufficient to wall it off from the surrounding tissues and secures its encapsulation with newly-formed fibroconnective tissue. The leucocytosis is then directed against the paraffin proper, beginning with a peripheral invasion and disintegration. The new army of invasion yields to degenerative changes, in the form of a flattening of the cells, with loss of nucleus, and general staining properties. This army of degenerated cell invasion is succeeded by a second army which undergoes a less complete form of degeneration, with the nuclei preserved, thereby forming masses of giant cells. These in turn are invaded by a third army, which has for its ultimate object a complete fibrosis. All these changes can be readily traced in their successive steps, the larger cavities retaining in their central zones the paraffin in its unchanged original form, the next smaller caliber cavities show the first step in the pathologic change, the next, the second, and smallest alveolar spaces, corresponding to the thinnest strands of injected paraffin, show evidence of fibrosis in its most complete form.

* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908.

Pigmentation following paraffin prosthesis is unusual, and this is the first instance which I have encountered in my personal experience. As far as I have been able to examine, the literature reveals but a single instance; Pigand[1] reports a case of discoloration of the skin, with ulceration and fistula following an injection of soft paraffin into the breast. No further light was shed on the nature of the pigmentation in my case by the histologic examination; examination of unstained sections revealed a slightly abnormal amount of pigment in the lower layers of the rete mucosa, and the number of pigment carrier cells in the papillary layer of the cutis was slightly in excess of the apparent normal. No pigment could be observed in the proximate area of the prosthesis. The patient was a pronounced blonde in type and showed no other pigmentation tendencies.

The unstable character of the prosthesis in its clinical aspects does not differ materially in this case from that in others in my personal experience, in which the correction of saddle-nose and cicatricial deformities were more or less temporary in character. Sehrt,[2] among many

Fig. 1.—Paraffin prosthesis in a case in which the pits from chickenpox were obliterated four years prior to the extirpation which was made necessary on account of pigmentation and recurrence of the cicatrization. The large cavernous spaces are the site of paraffin in unchanged form and undergoing an early stage of degenerated inflammatory infiltration and are surrounded with newly formed fibroconnective tissue. Winkel, objective 3, ocular 2.

others, has noted the non-permanent character of these injections, whether soft or hard paraffin was used, and reports a prosthesis in the cheeks which became transformed to connective tissue and invaded with giant cells and inflammatory exudate.

Many of the reports, particularly the earlier ones, on the histopathology of paraffin prosthesis are misleading and have been given various interpretations, in spite of the fact that they possess more or less common and uniform characteristics. The earliest investigations have dealt chiefly with the liquid paraffin and oil of vaselin, which were injected into the buttocks as the menstrua for mercurial injections. Allgeyer[3] and Wolters[4] observed cavernous spaces in these cases and believed them to be absorbed bundles of chemically destroyed muscular tissue. These spaces have been regularly recognized and variously interpreted, and rarely credited with being the site of unchanged paraffin. Many investigators even to the present day are oblivious of the fact, or at least their technic fails to indicate otherwise, that the paraffin in the tissues is necessarily removed by alcohol in the process of hardening the tissues, and by xylol in the process of clarification of the specimen, and that its microscopic recognition is only possible in frozen sections, stained with aqueous solutions and mounted in glycerin. Sakurane[5] in a recent careful and painstaking research, which even included the chemical determination of the presence of paraffin, interpreted the large spaces to be the result of the inflammatory reaction called forth by the mercurialized paraffin, and credited as paraffin a number of small round yellowish-red slightly refractory bodies (cell degenerations?), which he observed here and there in the cavities and surrounding tissues.

1. These de Paris, 1904.
2. Beitr. z. klin. Chir., lv, No. 2.
3. Arch. f. Dermat. u. Syph., 1901, lv.
4. Arch. f. Dermat. u. Syph., 1895, xxxii, p. 149.

DANGER OF EMBOLISM.

One of the greatest dangers and most serious objection to paraffin prosthesis is that of embolism. It has

Fig. 2.—Very small prosthetic areas infiltrated with inflammatory exudate and surrounded with newly formed fibroconnective tissue, degenerated leucocytes and gland cells. General appearance, that of a granuloma, resembling an early stage of tuberculosis of the skin. Winkel, objective 1, ocular 1.

occurred for the most part in cases in which liquid paraffin and oil of vaselin have been employed as the menstrua for mercurial injections. Hemiplegia and death have resulted in cases in which olive oil was injected subcutaneously for sustaining life in a case of stricture of the esophagus, and embolic foci found in all the internal organs and viscera. Amaurosis following paraffin prosthesis has been reported by a comparatively large number of writers, but almost invariably where paraffin of low melting point, or a mixture of low and high melting points, was employed. Eckstein's[6] contention that paraffin with 52 + C. will not be followed by blindness still remains to be proved. In this connection I wish to report an additional case in the practice of one of my Cincinnati confrères:

5. Arch. f. Derm. u. Syph., 1906, lxxx, p. 401.
6. Berl. klin. Wchnschr., 1903, 12 and 13.

CASE REPORT.

History.—A. S., male, aged 21, was injected June 13, July 5 and 26 and August 13, 1907, for saddle nose deformity, with paraffin of 43 C. melting point. Paraffin of one definite melting point was specified, but in reality a mixture of hard paraffin and oil of vaselin was employed. The first three injections caused little pain and inflammatory reaction; the last one was made under considerable pressure and was quite painful. At the close of the operation, vision suddenly disappeared from right eye.

Ophthalmoscopic Examination.—The following is the report of the ophthalmoscopic examination by Dr. Jesse Wyler, made August 24, 1907: Right eye stands in slight divergence. Quantitative vision only. Deep blood vessels, remains of a parenchymatous keratitis, seen in cornea with a loup. Pupils react to light and accommodation capsule of lens shows thickened areas, forming opacities of considerable size. Vitreous is clear. Papilla markedly white; slight crescent outward. Borders are hazy and connective tissue on the blood vessels. Small temporal crescent. Veins somewhat larger than normal. Arteries normal. Macular region is free. Diagnosis: Atrophia nervi optici secundaria. Patient states that both eyes went blind ten years ago, but came around all right.

Cases of this character are too frequent to require any special comment, and they continue to occur in spite of the elements of danger attendant on the use of paraffin in its various forms and methods of application, as

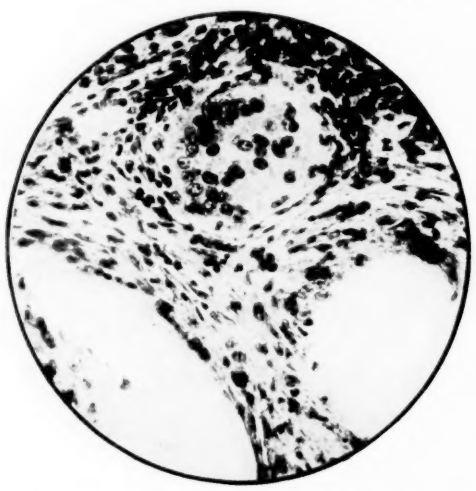


Fig. 3.—Two prosthetic areas containing paraffin in unchanged form and a third, the site of a large Langhan giant cell. Winkel, objective 4 A, ocular 2.

constantly depicted by a host of observers and investigators. It has been conceded for years that paraffin workers are strongly predisposed to keratoses, precancerous ulcerations and epitheliomata, yet relatively few operators have manifested a reluctance to deposit paraffin deeply in the tissues, where its subsequent removal becomes definitely precluded and its dangers correspondingly more grave. Davis in a protest against the use of paraffin about eyes, has called attention that its mere deposition in the capsule of Tenon following enucleation has been followed by sympathetic involvement of the remaining normal eye.

Of considerable interest in this connection are the recent experiments of Emil Beck[7] with injections of bismuth in paraffin for the successful obliteration of fistulous tracts; the excellent clinical achievements of the author in the immediate results will doubtless prompt its further use in hundreds of cases without serious consideration or regard for the ultimate rôle which paraffin will play in these cases. If the paraffin is to act merely as bridge or trellis work for the formation of obliterating granulation and connective tissue, as the author indicates, the injection of sterile agar-agar, under careful aseptic precautions, in accordance with the interesting and instructive experiments of Kramer,[8] is probably equally preferable and possibly a more innocuous substitute for paraffin.

There is one point in the question of paraffin prosthesis which requires further elucidation, and that is Eckstein's[9] contention that paraffin of high melting point remains stable and unchanged when deposited in the tissues. If this is the case, and it can further be shown that it also exerts no pathologic influence on the surrounding tissues, prosthetic paraffin may find a valued place for itself in therapy of the future. The consensus of present opinion is against this view. My personal observations and investigations do not permit an expression on this point, for the reason that I have not thus far been able to exercise a perfect control over the source of my paraffin. I have reason to believe that in

Fig. 4.—Giant cells forming the site of a prosthetic area and invaded by leucocytes. The whole area is undergoing a diffused fibrosis, which is the goal in paraffin prosthesis. Winkel, objective 4 A, ocular 2.

cases in which I have specified hard paraffin with one definite high melting point I have been supplied with a mixture of hard and soft paraffin. I feel assured that in these cases the hard paraffin has disappeared with the soft paraffin through the agency of phagocytosis, as maintained in my former contribution on the subject; but I am not in a position to state whether or not this would also have been consummated without the agency of soft paraffin or liquid albolene.

From our present state of clinical and histologic knowledge, paraffin when injected into the tissues, is attended with the considerable danger of embolism and amaurosis. The paraffin is promptly removed by phagocytosis, becomes replaced with fibroconnective tissue, and excites no small degree of local inflammatory reaction. Its presence is an irritant and foreign to the tissues in which it is placed. It may cause pigmentary as well as mechanical disfigurement. It often stimulates

7. THE JOURNAL A. M. A., March 14, 1908, p. 868.

8. Ann. Surg., August, 1901.

9. Berl. klin. Wchnschr., 1906, 31 and 32.

surrounding structures to epithelial proliferation and adenomatous change. Its presence excites successive invasions and degenerations of phagocytes and leucocytes, which, with the intermediate formation of giant cells and connective tissue, impart a characteristic pathology, in which the various foci of paraffin become surrounded with a granulomatous structure not histologically unlike that of an early stage of tuberculosis (Fig. 2); later they become surrounded with a wall of dense fibroconnective tissue. The removal of the central portions of the unchanged or slightly changed paraffin (Fig. 3) with alcohol and xylol imparts to the pathology a characteristic Swiss cheese-like appearance. Complete fibrosis (Fig. 4) is the final goal.

THE RELATION OF THE CHARACTER OF THE SYPHILITIC INITIAL LESION TO THE SECONDARY CONSTITUTIONAL PERIOD.*

A. RAVOGLI, M.D.
CINCINNATI.

From common clinical experience amongst syphilitic patients it has been observed that some who had been affected with the typical Hunterian chancre followed by indurated bubo have developed constitutional syphilis much later and milder in character than others who had been affected with small initial papules. The assertion of Marston, Love, Paget, Hutchinson and others, that the more extensive the initial sclerosis, the more severe and stubborn the secondary symptoms, finds no confirmation in my observations. On the contrary, I agree with the observations of E. B. Bronson,[1] that in malignant forms of syphilis the symptoms are much more precocious, the period of incubation is shortened and the constitutional manifestations are hastened. This fact, which not long ago seemed paradoxical, finds to-day an easy explanation in the power of the animal organism to produce elements which oppose the invading pathogenic germs. These beneficial factors are known as antibodies or antigens, and are produced in the blood under favorable circumstances and possess the power to dissolve injurious substances by hemolysis.

The result of the contact of an extract of bacteria with the antibodies in a living organism is immunization. This, although it explained the action in infectious diseases produced by bacilli and cocci, yet did not explain the other infectious diseases, the causative agent of which had been not yet found. The factor causing syphilis has only recently been found and so far has not yet been cultivated. It can not be digested in physiologic salt solution in order to show its antigen. Wassermann, however, came to the conclusion that in the organs in which a large number of spirochetes are found there must be found antigens. The livers of fetuses which have died of hereditary syphilis have been used to obtain the extract, which, in itself, is already capable of producing hemolysis. The serum of syphilitics also has antigens and is capable of clumping so that the union of both shows a single strong action. From these experiments Hoene[2] formulated his serum diagnosis of syphilis. In fact, he was able to establish the fact that in from 60 to 90 per cent. of all syphilitics who have clinical manifestations of syphilis the serum clearly shows antibodies and is capable of producing agglutination. If the serum of a healthy man is used no agglutination results. These experiments so far have no positive results and no practical application, but one thing is true, that in the organism of syphilitics, as a result of metabolism, products are formed which have much more intensive action than is the case in normal organisms. In the serum of syphilitics products are present which are not found in normal serum. To the lack of formation of antibodies by the organism is due the ravages of malignant syphilis. In such cases the spirochetes are left unimpeded and proceed to invade the whole system.

The hardening of the chancre is due to the effort of the organism to agglutinate the spirochetes so they may remain there encapsulated and finally be disposed of. Consequently the greater the reaction the more effect to impede the progress of the new dwellers in the organism. The idea that syphilitic virus constantly follows the lines of lymphatics to invade the organism is no longer tenable, because there are many cases in which the infection takes place quickly and can be traced to the spreading of the virus through the blood vessels.

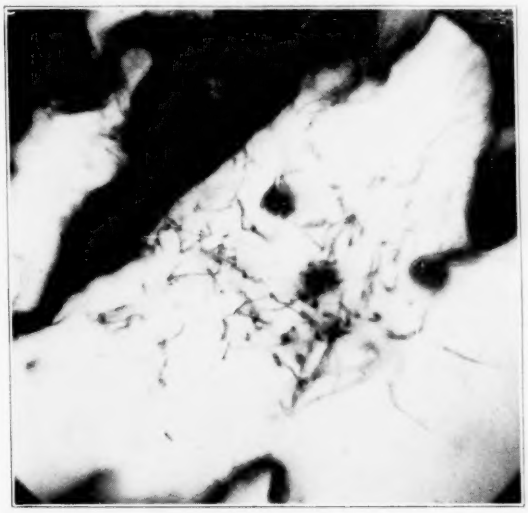


Fig. 1.—Spirochetes in a chancre (1/12 inch oil immersion).

In a series of cases in which the hard chancre was of a severe nature, accompanied with edema, and in which paraphimosis had occurred to necessitate circumcision for the purpose of relieving the pressure and saving the glans from gangrene, the secondary eruption has appeared as late as two and three months. In some cases I have doubted the correctness of the diagnosis of hard chancre for the reason that secondary symptoms did not show up and no constitutional treatment was given.

A strong and otherwise healthy young man was affected with a hard chancre of a very severe type, and in order to save the glans it was necessary to remove the swollen prepuce. The wound healed up slowly but perfectly. The patient had splendid health after that and, being carefully watched, never showed luetic symptoms. The inguinal glands remained slightly enlarged. One year and a half afterwards he complained of a hard and painful node in the left breast. It was a clear case of syphilitic mastitis, which easily yielded to the application of mercurial ointment. Constitutional treatment was administered and he is still being treated.

---

* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908.

1. Primary Syphilis, Morrow, System of Genitourinary Diseases, 1893.

2. Hoene, Fritz: Die Serum Diagnose der Syphilis, Dermat. Ztschr., 1908, xv, 113.

Another young man, of athletic build and in splendid health, had two hard chancres, one on the urethral meatus and another in the sulcobalano preputiale. Inflammatory symptoms had set in and in trying to bring the prepuce back he could not replace it. He came with the penis greatly swollen, edematous, twisted, the gland bluish in color. There was no time to lose; the prepuce was opened and circumcision performed, a great deal of the chancre being removed. The wound healed up by second intention. The patient, after being relieved of the strangulation of the glans, has always felt well, and shows no sign of constitutional symptoms of lues. Only three months afterwards he showed a mild eruption of roseola, with some erythema of the pharyngeal ring. Lately he had a marked eruption of mucous patches on the tonsils and base of the tongue. Under the treatment with injections of the gray oil he is doing well. Since he was operated on he has never lost one day from his occupation.

Another young man, 26 years old, of good physique and apparently in good health, came to be treated for a little sore on the penis, which he considered of a very trifling nature. Only a day or two before he had noticed three little sores of the sizes of a pin-head close together on the right side of the frenum.

His last exposure dated about two weeks before. The sores were somewhat too deep to be taken for excoriations from herpes, neither did they have the character of the chancroid, and yet they did not show induration.

They were cauterized with 3 per cent. solution of nitrate of mercury, which seemed to have helped a great deal; the patient continued his treatment by bathing the sores with a 1 to 1000 solution of bichlorid of mercury and by applying calomel powder locally.

In a short time the sores had healed up but one somewhat extended, the surface had taken on a bluish-brown color and under the finger a slight, scarcely perceptible, hardening could be noticed. The lymphatic glands did not show any induration or enlargement. The blood vessels around the fossa crurogenitalis showed a net of bluish-red streaks extending to the internal surface of both thighs. This peculiar condition was the result of an angitis with some effusion of the coloring matter of the blood. At the same time the patient began to show signs of anemia, lost his appetite, could no longer attend to his occupation. No more than twenty days from the appearance of the chancres large patches of roseola covered the chest, the abdomen, the arms and the thighs. The patches of roseola in the beginning looked more like wheals of urticaria, from the size of a dime to that of half a dollar, somewhat elevated above the level of the skin The patient was running down considerably in his general nutrition.

Roseola at present has nearly disappeared, leaving only some pigmented spots. The mouth is now the part mostly affected; the tongue, mucous membrane of the cheeks, and tonsils are covered with deep ulcerated patches which render difficult the mastication and prevent swallowing. His present condition is rather bad and shows that a quick and severe case of syphilis has followed an initial lesion which was of a mild and trifling character.

It appears clear that the enlargement and swelling of the lymph glands is due to their action in opposing the invasion of the spirochetes. In the cases in which the glands are very little or not at all involved, syphilis usually takes a severe course.

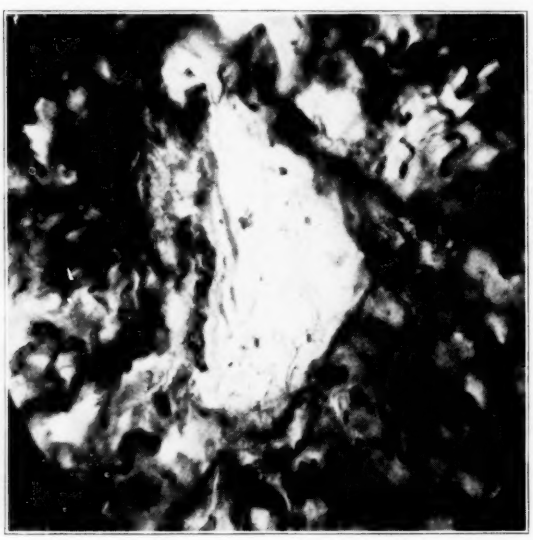


Fig. 2.—Spirochetes clumping in the middle of a lymph space (⅛ inch objective).

Fig. 3.—Clump of spirochetes in the middle of a lymph vessel.

Fig. 4. — Spirochetes clumped together in a lymphatic gland of the groin.

The swelling of the glands, which is the result of tuberculous or of mixed infection, has no connection with the enlargement due to the invasion of the spirochetes, and the latter then constitute a complication by themselves.

According to Gastou, the evolution of syphilis can be schematically reduced to three periods, one lymphatic in its development, a secondary one with manifestations on the capillary and venous system, and finally an arterial infection of a tertiary nature. It seems that the treponema changes its functions and undergoes modifications after some time, so much so as to cause a difference in the symptoms. In fact, according to Gastou, the treponema at the beginning of its existence seems to be an anaërobe, and is gradually changed into an aërobe. The eruptive symptoms of syphilis, beginning with the chancre and ending with the gummous tumor, are the result of the multiplication of the infectious agent. The reactions caused by its presence in the tissues are the symptoms of the eruption which we see in the syphilitic subjects. In the individual free from syphilis the tre-

ponema finds a different reaction from that of the tissues which cause the induration. Finger has experimentally proved the inoculability of the tertiary syphiloma. Hallopeau and Gastou[3] are of the opinion that the difference of symptoms in the various periods of syphilis are due to the different functions and to the different action of the treponema in consequence of modifications. The modified spirochete, when inoculated in a healthy organism, takes again its ordinary appearance and reproduces the initial symptoms.

The syphilitic treponemas find also their means of propagation into the system by continuity through the interstices of the tissues, showing thick syphilitic lesions around the initial lesion which Lang called regional infection. This peculiar method of propagation can, according to Hallopeau, be explained as the result of an increased virulence of the treponema emanating from the initial lesion. It can also be accounted for by a debilitated condition of the general system of the patient, which shows lack of power to produce antibodies in order to impede the progress of the germs.

In the first two cases the chancres had been of an unusual severity and had been accompanied by hard edema of the penis and enlargement of the lymph glands of the groin which Hallopeau very appropriately calls *le ganglion barrière*.

The edematous prepuce and the paraphimosis necessitated circumcision. The skin was removed, together with the ulcerated chancre. The chancre was cut in pieces and stained by the Levaditi method for spirochetes and the microscopic and photomicrographic work was done by my assistant, Dr. George H. Werk.

Figure 1 shows spirochetes free in the interstices of the tissues of the chancre. The reaction does not seem to be very remarkable and the spirilla do not suffer any impediment.

In Figure 2, in the middle of an infiltrated skin surrounded by leucocytes and large plasma cells, a lymph canal is opened containing spirochetes which begin to form lumps.

Figure 3 shows much more distinctly a clump of spirochetes in the middle of the lymph vessel. This bunching of spirochetes in the middle of a lymph canal shows clearly that the agglutinin of the organism has an effective action in massing the spirilla together. This action is also found in the alveoli of the lymphatic glands.

Figure 4 shows a bunch of spirochetes in the middle of an alveolus of the lymph gland, the true syphilitic bubo. This condition of the glands shows that their enlargement in consequence of an invasion of syphilis is not entirely passive but is due to an active reaction for the purpose of opposing the progress of the invading organisms. When the glands have suffered in consequence of suppurative adenitis, or when they have been removed or destroyed, infection with syphilitic virus seems to be much more dangerous because the glands are ineffective and can not impede the progress of the spirochetes.

Hallopeau referred to a case in which a limited thick papular eruption extended for over 15 cm. (6 in.) around the left inguinal region. The inguinal glands had been destroyed by a chancroidal bubo. It seems that in this case the treponema, instead of remaining limited to the gland where it could have been somewhat modified, has been inoculated by continuity and from the interstices of the tissues has traveled forming the limited eruption before the general symptoms have appeared.

The intrusion of the spirochete or its toxic products into the circulation of the blood causes at first a reaction which is revealed by the syphilitic fever. This reaction precedes the roseolar eruption, which may be considered as an effort of the organism to dispose of the invading germs. After the first reaction the system seems to lose the power of generating enough hemolytic elements to counteract the noxious action of the spirochetes. In the same way when the organism is feeble on account of some other diathesis, such as tuberculosis, malaria, or on account of alcoholism and a bad hygiene, the opsonic index is greatly lowered and the organism is left to the mercy of the invading bacteria and to that of the syphilitic virus. On the enfeebled condition of the constitution, the inability of the organism to produce antibacterial elements, and the passive condition of the leucocytes, unable to cope with the virulent germs, depends the factor of malignant syphilis. It is not the quality of the syphilitic virus which is the cause of malignancy, but the condition of the system of the newly infected individual. At times we see cases of very severe syphilis which have been taken from patients who had shown the mildest symptoms.

The treponema, after the first constitutional eruptions, begins to show a tendency to systematize and show up in its preferred localities. At this time the eruptions are no longer symmetrical as they were in the beginning, but make their appearance in places which offer better ground for their development. Other bacilli take part in the work and are the cause of pustular and ulcerative forms of syphilis. External injuries, irritations constantly applied in a part of the body are favorable causes for the invasion and development of the treponema in that locality. For this reason mucous patches of the tongue are so frequent in the mouth of men who chew tobacco.

According to the views of Hallopeau and Gastou the persistency and the stubbornness of the papulo-squamous syphilids of the palms and soles must be due to the hard and thick condition of the epidermis which covers those regions. The treponema, after being carried there by the capillaries, is left in the interstices of the tissues, easily reproduces, and can not find a way to reenter the circulatory path or its way out on account of the thickness of the horny layer. Moreover, the remedial agents in the circulation do not easily reach the palms and soles, nor are the remedies applied on the surface of the skin capable of penetrating the thick epidermis. Consequently the spirochetes remain undisturbed; hence the stubbornness of the affection.

The initial lesion in a severe form is usually a sign of strong reactive power of the system, the spirochetes are surrounded by the leucocytes, the tissues are trying to encapsule them, antibodies are formed and the organism is guarded. A well-directed treatment will easily dispose of the few spirochetes which are still found in the system, and in a short time the disease will die out. On the contrary, a mild initial papula, which in many cases passes unobserved shows that the system is unprepared to cope with the infectious agent. It finds its way more often through the blood vessels, and in a short time the eruptions appear. This kind of initial lesion is the one which is followed by severe and stubborn constitutional symptoms

3. Localisations systématisées du tréponème Pallidum, 1907

In reference to the treatment, it is difficult to foresee whether it will be possible to find an antisyphilitic vaccine which, by increasing the opsonic index, will render the organism capable of disposing entirely of the treponema. One thing is sure: that in the mercurial preparations we have a remedy which directly attacks the spirochete and improves the general condition of the system, rendering it able to cope with the virulence of these germs.

In the meantime we can find the means to attack the treponema directly on the initial lesion where it is developing. We can either destroy it in the locality or at least succeed in modifying syphilis to such a point that it may have a mild course. The local and the general action of atoxyl has been greatly praised by Salmon and Hallopeau. The last named author[4] has called its use the novel local treatment of syphilis in its primary period. A salve containing 50 per cent. of atoxyl has been used on the initial chancre and at the same time there have been given injections with an atoxyl solution from 10 to 20 per cent. with satisfactory results.

In my service at the City Hospital in two cases of initial lesion the application of the atoxyl salve dissolved the hardness, cleaned the surface and healed up the ulcer in a much shorter time than has been possible with any other means.

The action of the atoxyl on the syphilitic pathologic products has been recognized by Hoffman[5] not only on man but also on the animals. Hoffman and Uhlenhuth have found in the application of atoxyl a preventive action against syphilis in the animals, and this was later confirmed by Metchnikoff. But it seems that the atoxyl treatment does not protect the patient from the relapses of syphilitic manifestations. In my practice the atoxyl injections in cases of severe symptoms did not give me the results which the mercurial preparations have afforded. We can say then that to-day we believe there has been found another remedy which has antisyphilitic action. Time and experience will show whether it is to replace mercury, whether it is to be given in conjunction with mercury, or whether the greatest of all antisyphilitic remedies will still be mercury.

5 Garfield Place.

THE INFLUENCE OF THE DISCOVERY OF THE SPIROCHÆTA PALLIDA ON THE TREATMENT OF SYPHILIS.*

JAMES F. BREAKEY, M.D.
ANN ARBOR, MICH.

The brilliant results of the work of Schaudinn and Hoffman, following the researches of so many able investigators, and confirming pre-existing opinions that syphilis was due to a specific micro-organism, are certainly a cause for congratulation on the progress of pathologic study. To the general practitioner, however, it presents the question: "What advantage is gained and what difference should it make in the management of a case of syphilis at any stage?"

This is a pertinent question and deserves consideration. In connection with the recent work done by French investigators in the prophylaxis and treatment of syphilis by calomel ointment and atoxyl, a partial answer to the question is found. Metchnikoff[1] has conclusively shown that syphilis may be aborted by the inunction of calomel ointment, provided it be used sufficiently soon following inoculation. Such a prophylactic use of the ointment, while interesting and useful on rare occasions, is impracticable and of no service in general practice; nor can it be used in any case in which a diagnosis has been made by the demonstration of the presence of the *Spirochæta pallida.*

In the same article the abortive power of atoxyl in syphilis was proved. With this drug the interval elapsing between the time of the inoculation and the use of the drug was much lengthened, such an interval having been as long as fifteen days, following which no manifestations of infection appeared. This again, as in the prophylactic use of calomel ointment, is an interesting fact, easily demonstrated in laboratory experiments, but of little more service in general practice than the use of the calomel ointment, so far as aborting the disease following a laboratory diagnosis with the presence of *Spirochæta pallida.*

Among the various laboratory experiments on apes, two animals were inoculated, together with controls, with syphilitic virus and later given prophylactic doses of atoxyl. The control animals contracted the disease, while the two inoculated animals did not. After an interval of two to three months these two apes were reinoculated and both developed typical primary sores. These experiments went to show that after the first prophylactic dose of atoxyl there is neither a dissemination of the virus nor a lasting immunity.

If further work goes to demonstrate the truth of the claims of these men as to the prophylactic power of atoxyl, given soon after inoculation, such a fact can be made of practical use in one way at least. If all persons who have been exposed to a possible syphilitic infection were to submit themselves for treatment by prophylactic doses of atoxyl, it would be possible to wipe out the disease. Such a line of treatment, however, would have to be instituted before the infection had been generally disseminated and before its presence could be demonstrated by finding the *Spirochæta pallida.* In general practice, of course, such a line of treatment would be purely empiric and the infected and uninfected must needs be treated alike. In this connection it might be said that such a dose of atoxyl, however, is harmless.

The prophylaxis and the treatment of an actually existing syphilis, of necessity, are two different things. Having a patient presenting a suspicious lesion, what is the general practitioner to do in the light of present knowledge? Weight of authority up to this time has held that no constitutional treatment should be begun until the diagnosis is confirmed by the appearance of secondary symptoms in some form.

In the presence of a lesion, to-day, in which an unsuccessful search for the *Spirochæta pallida* has been made, it would seem that the active constitutional treatment should still be delayed, pending confirmation of the diagnosis. With such a lesion, scrapings from which show the *Spirochæta pallida,* their presence is of sufficient confirmative weight to warrant the immediate institution of antisyphilitic treatment. Again the question arises: "Of what advantage is this to general

4. Hallopeau, H.: Nouveau traitement local de la syphilis dans sa première période, rev. scient., ii, Jan. 11, 1908.
5. Berl. dermat. Gesellschaft, July, 1907; cited in Dermat. Ztschr., 1907, p. 656.

* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908

1. Ann. de l'Inst. Pasteur, October, 1907.

practitioners, practically none of whom are able to demonstrate or differentiate the *Spirochæta pallida?*" Granting, however, that the micro-organisms have been demonstrated, what difference will it make in the line of treatment? The primary lesion from which you can first recover the *Spirochæta pallida* is but the first anatomic evidence of a condition already more or less systemic and unquestionably disseminated quite beyond the localized area of the primary sclerosis.

What has been previously demonstrated as to the inadequacy of surgical excision in such lesions is quite as true to-day as ever. The only change from pre-existing methods of treatment which could be wrought by the finding of the *Spirochæta pallida* would be in advancing the time in which one would feel warranted in beginning constitutional treatment, and even then one of the chief objections to early constitutional medication previously existing would still hold true; that is, early mercurial treatment may abort or delay secondary symptoms and the patient be lulled into a false sense of security after an insufficient course of medication and ultimately develop serious after-effects as a result of medication early instituted following a microscopic diagnosis of syphilis.

If, however, further observations go to show that atoxyl eliminates all evidences and possibilities of a lasting syphilitic disease, then surely much will have been gained.

A study of an exhaustive article by Paul Salmon[2] on arsenic in syphilis leads one to a conviction of the sincerity of its author and the truth of his claims regarding the results of the administration of atoxyl in syphilis. From it the following observations and conclusions may be made:

Atoxyl must be admitted to an equal footing with mercury as a specific in syphilis, and as an abortive in the disease it is much more reliable. As a remedy it is preferable in all stages and possibly can be depended on to destroy all spirochetes if used even after the primary manifestation. It is of special service in the graver and more malignant types of the disease. It is not contra-indicated in the parasyphilitic manifestations, but even ameliorates many of the symptoms, such as pains and neuralgia in tabes and paresis.

Syphilis may be aborted by the prophylactic use of atoxyl administered as late as from one to two weeks following inoculation. The failures of previous investigators along these lines have largely been due to insufficient doses of atoxyl.

That atoxyl administered by injection proves to be a true prophylactic is demonstrated by the fact that an animal in which syphilis has been aborted by atoxyl, and later was again inoculated with syphilis, developed a typical chancre. The same experiment goes to show that prophylaxis does not carry with it an enduring immunity.

In the use of the remedy, during any of the stages of syphilis, more rapid improvement than one gets from the use of mercury usually followed.

When the disease has become disseminated—that is to say, at any time following the appearance of the primary lesion—constitutional treatment, be it with atoxyl or mercury, must be carried on for a prolonged period, and, while the improvement of particular syphilitic manifestations is more rapid with atoxyl than with mercury, recurrences appear on the cessation of the treatment.

The explanation of the action of mercury or atoxyl on the spirochete must still be found. It is probably through the effects of the drugs in attenuating the germs or in stimulating phagocytosis.

Beyond a certain dose, the amount given has no further effect on the destruction of the micro-organisms. The small doses are ineffective and useless, while large ones produce toxic effects, varying from slight headache, nausea, vomiting, colic and possibly ocular effects and subsequent paresis.

The ordinary dose should be 50 centigrams. This should be given hypodermically at intervals of one or two days and repeated from four to eight or ten times, after which an interval of rest should be observed, or treatment may be continued by one of the other specifics of mercury or iodin.

Very good results have been observed in the alternation of these remedies, or even in using them together at the same time. At present, atoxyl, as a remedy, promises much.

In unusual dermatoses of uncertain character, the recovery of the *Spirochæta pallida* establishes a positive diagnosis and indicates the necessary treatment. The failure to find spirochetes, however, proves nothing and we are then no better off than we were years ago. In such cases, the Wassermann test may be used as a necessary diagnostic resort.

Outside of the larger medical centers, such diagnostic measures are quite impracticable, and in the hands of the general practitioner impossible. The fact remains that in many cases a diagnosis must and will depend entirely on the clinical picture presented.

To the attending physician still remains the necessity of recognizing syphilis from the symptoms manifested by the patient.

The discovery of the *Spirochæta pallida* undoubtedly marks one of the greatest steps forward in the knowledge and literature of syphilis. The immediate practical benefit of this discovery, however, will be limited to a comparatively few cases, and even in these few cases its presence usually seems to be a confirmatory evidence of a diagnosis previously made by the clinical presentation.

213 East Huron Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. BREAKEY AND RAVOGLI.

DR. HERMANN G. KLOTZ, New York: My experience with primary sores of syphilis has been very similar to that of Dr. Ravogli. I particularly recall one case of a very malignant type in which the primary lesion consisted of a slight abrasion which healed within a week and which I had not recognized as a chancre at all. In connection with Dr. Breakey's paper, I emphatically warn from depending too much in practice for the present on these new discoveries. In time we shall learn more about the spirochete and about the part it actually plays in the development of syphilis, but it is much too early to draw practical conclusions. Long before the spirochete was discovered we knew that some micro-organism must be the causal factor in syphilis, but from clinical experience most syphilologists had come to the conclusion that it was safer to wait until the secondary symptoms appeared before beginning treatment. Until we know more about the spirochete and its life history there is no reason to recede from the former practice. From clinical observation we knew, long before this fact was explained by the study of the life history of the malaria plasmodium, that quinin was most effective in malaria if given at a certain time. So in time we may learn

2. Ann. de l'Inst. Pasteur, January, 1908.

why the results of the mercurial treatment are more favorable when it is withheld until the secondary symptoms have appeared.

DR. WILLIAM A. PUSEY, Chicago: I endorse Dr. Klotz's caution against attaching too much importance to the spirochete in a diagnostic way. I also protest against the present vogue of atoxyl. There is no reason to believe that arsenic is more efficient against syphilis than mercury, or that there is anything except arsenic in atoxyl that could be beneficial in syphilis. The only claim for the preparation is that by it arsenic can be given in enormous doses, but it is not established that the molecule of atoxyl has the same therapeutic effect as arsenic. There are a variety of opinions as to the safety of the preparation; dangerous results have been reported from its use, and the testimony regarding it is not all in accord. I believe that we are not justified in relying on it to any extent in the present state of our knowledge regarding it. Metchnikoff believes that syphilis can be aborted by the use of a calomel ointment, and certain French writers assert that this is efficacious when applied within eight hours after exposure. The statement that atoxyl or any other preparation of arsenic will abort syphilis if used within fourteen days or even longer after exposure is, in my opinion, absurd. If mercury will not do it—and it will not—there is no reason to believe that a new preparation of arsenic will display such potent action against syphilis.

DR. A. KAVOGLI, Cincinnati: I do not in my paper recommend the use of atoxyl. I selected six cases of recent syphilis in my hospital service and subjected the patients to three injections per week of a syringeful of a 10 per cent. solution of atoxyl; one of these patients developed an iritis, and the others were at times a little better, at times a little worse. I then changed the injections to bichlorid, and my experience showed that the three weeks I had devoted to atoxyl treatment had been wasted. After three injections of bichlorid the eruption in all the cases cleared up. Atoxyl, used locally, seems to hasten the healing of a hard chancre. Calomel would probably have the same result. My experience has led me to take a lukewarm attitude toward atoxyl.

HEMOLYSIS WITH SPECIAL REFERENCE TO CANCER AND TUBERCULOSIS.

FURTHER OBSERVATIONS ON ITS CLINICAL ASPECTS*

GEORGE W. CRILE, M.D.
CLEVELAND.

The literature of the work hitherto done to discover some blood test for cancer is presented by Richard Weil.[1] The technic followed in our work at Lakeside Hospital is based on that in current use, modified to meet clinical requirements.

I have heretofore reported for the American Society of Cancer Research our observations on hemolysis in malignant tumors. This is in the nature of a report of progress in our investigation. The technic has been greatly improved and now seems to be quite accurate. It is exacting, must be precisely done, and every step amply surrounded by checks and controls.

Dr. D. A. Prendergast made the first series of observations, after which Miss Ora Lewis took all the responsibility of the technic for seven months and made many improvements during the period of her painstaking work. Dr. A. M. Tweedie has been carrying on the work since Miss Lewis' service and has made extremely valuable suggestions and alterations in the technic. My resident physician, Dr. H. G. Sloan, and members of my staff at Lakeside Hospital, Drs. Gamble, Eisenbrey and Pomeroy, have assisted in the clinical side.

* Read before the American Society of Obstetricians and Gynecologists, Baltimore.

1. Jour. Med. Research, October, 1908.

THE NATURE OF HEMOLYSIS.

The red corpuscle is covered by an exceedingly thin and delicate membrane, which prevents the escape of its contents, the most important being hemoglobin. This investing membrane is very susceptible to chemical or thermal changes in its environment. If impaired by such changes a part or all of the hemoglobin will escape and become freely diffused in the serum. The corpuscles then become proportionately paler, and if all the hemoglobin is lost there will remain only the framework of the cell, designated as "shadow cell" or "ghost."

Free hemoglobin may be detected in the urine and other secretions. If in quantity, it stains all the tissues, causing a brilliant jaundice. This process is known as hemolysis and the agents causing hemolysis are known as hemolysins. Hemolysins may be roughly classified as inorganic and organic. Among inorganic hemolysins are ammonia, soaps, ether—any agent that will change the isotonicity of the blood serum. Among organic hemolysins are normal blood and tissue juices of alien species, and blood and tissue juices in certain pathologic states. In pernicious anemia, in certain fevers, occasionally in chronic suppuration, and in other general diseases there is such a change in the blood serum that when the red corpuscles from normal individuals are suspended in this serum hemolysis occurs. It may be at once asked why such hemolytic serum does not destroy the corpuscles of the patient *in vivo*. Two reasons suggest themselves why this does not always occur. The first is that the corpuscle undoubtedly shares the universal attribute of living matter whereby it is able, to a certain degree at least, to adapt itself to its environment. The second reason why hemolysis may not occur in the presence of hemolytic serum is that the process *in vitro* is not identical with that *in vivo*. A corpuscle, having adapted itself to a certain environment, may itself become so altered that when it is again suspended in normal blood serum it may undergo hemolysis.

The medical importance, if any, that these facts assume is determined by correctly answering the following questions: Is there a reliable technic for the determination of hemolysis? Are the changes in the serum and in the corpuscles thus produced by disease of a specific nature? Are they constantly present?

CONDITION OF THE TEST.

Many difficulties beset the technic. There are many inorganic hemolysins that must be avoided. The blood must be drawn and kept absolutely free from these. Red blood cells are extremely sensitive to changes in temperature. Provision for absolute control of the temperature must be made. As the corpuscles are very delicate, extreme care must be exercised in applying the mechanics of the technic. Experience has shown that if the serum and corpuscles are immediately separated, either by drawing the blood in sodium citrate solution or by immediate centrifugalization, the hemolytic action is either minimized or negative. The maximum reaction is obtained when the serum and the corpuscles are separated by clotting. The serum attains its maximum hemolytic power in about twenty-four hours. In securing normal blood one must bear in mind the fact that it is not possible absolutely to determine, except by an actual blood test, whether a given individual's blood will react as normal. But if these samples of supposedly normal blood are used and are tested against each other as well as against the blood of the patient, there is then but

slight chance for error. Again, it has been shown that organic hemolysins are destroyed, hence rendered inert, by a temperature of 55 C. for ten minutes. Anticipating for a moment a part of what I shall say as to the results of our tests, I will state that in every instance this temperature destroyed the hemolytic power of the serum. The hemolysins of disease, so far as we have studied them, are of organic nature. Inorganic hemolysins, such as ammonia and other chemicals, are not influenced by heat. If, then, all the tubes of the entire test are made up in duplicate and one set subjected to a temperature of 55 C. for ten minutes, possible error from inorganic hemolysins may be excluded.

The test is determined by noting the result of suspending normal red cells in the patient's serum and suspending the patient's cells in normal serum.

TECHNIC.

The technic in detail is as follows:

Facilities Required.—(a) incubator; (b) refrigerator; (c) centrifuge; (d) sterilizer; (e) one gross test-tubes, size one-half inch; twenty-four tubes, three inches long, one-fourth inch inside diameter; (f) test-tube racks made to hold seventy-two tubes, with each tube hole numbered consecutively in ink; (g) glass beads for defibrinating the blood; (h) several aspirating needles, with stylets.

Comment.—These tubes must be cleansed in isotonic salt solution only. The tubes to be set up in the test should be kept immersed in isotonic solution and taken out only when they are to be used. The large tubes that are used to collect the blood are cleansed with isotonic solution and dried. These tubes are used in pairs—one for obtaining the blood for the cells (in this tube a glass bead is placed), the other for blood for the serum. Both tubes are then closed with cotton stoppers wrapped in close-mesh cotton cloth, sterilized, and set aside for future use. Needles are similarly wrapped in individual packages and sterilized.

Obtaining the Blood.—The blood is drawn by aspirating a vein. The most convenient vein is usually the median basilic at the bend of the elbow. The field is scrubbed with soap and water, followed by ether and alcohol, then thoroughly cleansed with sterile water or, better still, with salt solution. The arm is firmly compressed well above the elbow by bandage or otherwise to dilate the vein. The needle is then inserted through the skin into the vein. Into the tube containing the bead 3 c.c. of blood are collected and the tube immediately and continuously agitated for about ten minutes. Defibrination of the blood is thereby accomplished. Into the other tube are drawn 10 c.c. of blood. This tube is kept at rest in a slanting position during the separation of the blood into clot and serum. If it can be conveniently done, it is better to secure the blood for the cells just before the tubes are to be set up, that is, about twenty-four hours later than the blood is drawn for the serum. The pressure from the arm should be removed before the needle is withdrawn; otherwise a greater amount of blood than is necessary will ooze from the puncture in the vein. The further preparation of the blood consists in putting the defibrinated blood into a tube containing 20 c.c. 0.85 per cent. saline solution made up with distilled water. This tube and the one containing the clotted blood are now placed for approximately twenty-four hours in the refrigerator. Cold facilitates separation of the clot and serum and preserves the blood. The separated serum is pipetted off, put into a sterile tube and again returned to the refrigerator. In precisely the same manner blood is taken from two or three apparently normal individuals and subjected to precisely the same technic. The supernatant fluid in the tube containing the corpuscles is poured off and 20 c.c. of fresh isotonic salt solution is added to each tube. The tube is then gently shaken until the cells are in complete suspension. The suspension fluid is now transferred to the various sera according to the formula.

Setting Up the Test.—We then have the corpuscles and the serum from four individuals, the patient and three supposedly normal individuals. Using the smaller test-tubes, 0.5 c.c. of the serum of each is added to 0.5 c.c. of a suspension of the red corpuscles of A, B, C, and D in 0.85 per cent. isotonic salt solution. The same is done with the serum B, C and D. The tests are put up in duplicate. The duplicate set is taken out of the refrigerator and placed in a water bath for ten minutes at 55 C. As previously stated, this destroys all organic hemolysins and constitutes a control in the technic. Testing the patient with three normals requires the use of thirty-two tubes arranged as follows:

Tube.	
1.	Serum A + cells of A
2.	(heated) Serum A + cells of A
3.	Serum B + cells of B
4.	(heated) Serum B + cells of B
5.	Serum B + cells of A
6.	(heated) Serum B + cells of B
7.	Serum A + cells of B
8.	(heated) Serum A + cells of B
9.	Serum C + cells of C
10.	(heated) Serum C + cells of C
11.	Serum C + cells of A
12.	(heated) Serum C + cells of A
13.	Serum C + cells of B
14.	(heated) Serum C + cells of B
15.	Serum A + cells of C
16.	(heated) Serum A + cells of C
17.	Serum B + cells of C
18.	(heated) Serum B + cells of C
19.	Serum D + cells of D
20.	(heated) Serum D + cells of D
21.	Serum D + cells of A
22.	(heated) Serum D + cells of A
23.	Serum D + cells of B
24.	(heated) Serum D + cells of B
25.	Serum D + cells of C
26.	(heated) Serum D + cells of C
27.	Serum A + cells of D
28.	(heated) Serum A + cells of D
29.	Serum B + cells of D
30.	(heated) Serum B + cells of D
31.	Serum C + cells of D
32.	(heated) Serum C + cells of D

Determination of Hemolysis.—The tube subjected to a temperature of 55 C. should be placed in the refrigerator long enough to acquire the same temperature as all the other tubes. All the tubes are now taken out of the refrigerator and placed in a thermostat at a temperature of 37 C. for two hours. At the end of this time they are again placed in the refrigerator for twenty hours. At this time the hemolysis may be determined. This, of course, is indicated by the pink coloration of the supernatant fluid and the condition of the sedimented cells. Accurate notes of all the cases are kept by the numbers on the tubes. The result is read off by members of the staff who have no knowledge of the identity of any of the tubes. These observations make up the tables to be presented.

RESULTS OF STUDY.

Many changes were made in the technic until the present was attained. The results are now usually uniform. Our particular study was directed toward the hemolytic reaction in the normal state, in pyogenic infections, in malignant tumors, in benign tumors and in tuberculosis.

Among miscellaneous cases there were nine instances of hemolysis, two in cases of grave eclampsia, one in a case of extreme hyperpyrexia due to hyperthyroidism several hours before death (the temperature at this time was 109), in one case of leukoplakia of the tongue, and in one case of psoriasis. The remaining four occurred in cases of chronic diseases without definite diagnosis.

The results of our study may be tabulated as follows:

TOTAL NUMBER OF CASES STUDIED, 591.

		Hemolysis. No.	P.C.
Normal subjects	211	0	0
Pyogenic infection	71	7	10
Benign tumors	55	0	0
Cancer	153	130	85
Postoperative cancer cases with clinical recurrence	11	11	100
Postoperative cases without clinical recurrence 3 weeks to 15 years after operation	37	0	0
Tuberculosis	52	48	92

Extracts of malignant tumors uniformly caused total hemolysis. Extracts of benign tumors uniformly caused no hemolysis.

COMMENTS.

The cancer cases showing no hemolysis were mostly in the advanced inoperable stage. Only an occasional early case failed to show hemolysis.

Cancers on mucous membranes showed hemolysis more frequently than cancer in tissue, as the breast.

All cases of tuberculosis showed reverse hemolysis, that is, normal serum hemolyzed the patient's corpuscles. In all cases serum heated to 55 C. for ten minutes prevented hemolysis. Sudden chilling of the blood according to the method of Hoover and Stone caused a marked increase in the hemolytic action. Plasma obtained by immediately centrifugalizing the serum caused little or no hemolysis in hemolytic cases.

The hemolytic property reaches its maximum about twenty-four hours after the blood is drawn.

In the cancer group the cases in which the disease was entirely removed lost their hemolytic property in from twelve to twenty-one days after operation.

In cases in which an incomplete operation was performed the hemolysins continued indefinitely.

CONCLUSIONS.

Our conclusion is that hemolysis occurs in a number of diseases. It occurs in great frequency in cancer and tuberculosis. The reaction in tuberculosis is the reverse of that for cancer. From the clinical standpoint hemolysis offers additional evidence which may be used in the diagnosis of cancer or tuberculosis. This evidence is not as yet specific.

1021 Prospect Avenue, S. E.

THE VALUE OF A ROUTINE PHYSICAL EXAMINATION.*

EDWIN W. GEHRING, B.S., M.D.

Instructor in Physiology, Medical School of Maine; Adjunct Physician to the Maine General Hospital, Portland; Physician to Portland Tuberculosis Class.

PORTLAND, MAINE.

One gets the impression from reading certain books on general medicine that diagnosis constitutes three-fourths of the physician's work, and that having ascertained the nature of a patient's ailment, anyone can institute treatment. However widely we may dissent from this view, we must concede the important part played by diagnosis in prescribing for our patients, to say nothing about the intellectual stimulation it affords the practitioner. In itself it is so absorbingly fascinating that the Germans, for example, may be said to look on it as an end, rather than as a means to an end, and to concern themselves not with the treatment suggested but with the autopsy to confirm or to disprove their original findings. Nevertheless, for all of us, the recognition of disease from symptoms is essential for skilful, clear-headed management of any case, symptomatic prescribing being unscientific and unjustifiable save in rare instances. Convulsions, dyspnea, diarrhea, cardiac palpitation are symptoms, for which one should seek the underlying cause, rather than adopt palliative measures whose effects, at best, are transient.

The word "diagnosis," as I use it, includes the recognition of physical signs of disease, a careful discrimination among and weighing of these, and a final arrival at the true nature of the affection in question by consideration of signs in connection with the history of the case. Anyone who has read many such case histories and records of physical examinations with probable diagnoses, and who has then been fortunate enough either to see or to read accounts of autopsies on the bodies of these same patients, must have been impressed with the discrepancy which too often exists between antemortem and postmortem discoveries.

About a year ago it occurred to me that a review of many cases might afford some explanation of our mistakes. Accordingly, since that time I have studied one hundred instances of disease, some of which came to autopsy, others being ultimately diagnosticated and successfully treated. The revelations of this work suggested the title of my paper, for, among other causes to which our errors may be attributed, the following seemed most prominent: First, lack of clinical, book and laboratory knowledge; second, untrained powers of observation; third, absence of system in obtaining histories and making physical examinations; fourth, inability to interpret data secured; fifth, the fact that the problem is incapable of solution.

I have attempted a consideration of just one part of one of these causes—the lack of systematic physical examination. In the series of cases investigated, typical of what the average general practitioner sees, as many failures in diagnosis could be assigned to this as to any other one cause. Both radials were not palpated simultaneously, the gums were entirely overlooked, no count was made of white blood corpuscles, the urine was not examined for sugar. This fact is all the more deplorable because a habit of routine work can be acquired by everyone, a fact which is not in the same degree true of the acquisition of knowledge, or of the power to observe, or, having seen, of the ability to interpret. The haphazard, accidental method of procedure is always productive of confusion and error, rather than conducive to enlightenment, accuracy, and truth. To bring forcibly to mind the real value of routine work, I have chosen several cases in which diagnostic blunders were the direct result of no regular order or plan of examination. Histories and results of examination are stated precisely as in the original.

CASE 1.[1]—Male, aged 32, occupation cook, came to the hospital on Jan. 6, 1899. His family history was negative and

*Read before the Maine Medical Association at Bangor, Maine, on June 11, 1908

1. Cases 1, 2 and 6 are taken from Cabot's "Case Teaching in Medicine."

previous history good. He denied any syphilitic infection, but admitted having had urethritis some years previously. He had never had an attack similar in character to this. The present illness dated from Dec. 30, 1898, eight days before applying for relief at the hospital. The first symptoms seem to have come on rather suddenly with a rigor of marked severity, followed by fever and later by profuse sweating. Almost immediately afterward he was seized with intense muscular pains, extending over the trunk and limbs; these pains were agonizing in character, increased on the slightest exertion, and had been present with varying degrees of severity until his admission. They prevented him from sleeping, and he spoke of them as being not unlike rheumatism—dull and aching while he was in the recumbent posture, becoming intensely lancinating as soon as the slightest exercise was attempted. His appetite, which had previously been of the best, was absolutely lost and he had eaten nothing for three days. With the exception of some slight frequency of micturition and a slight cough with expectoration, there was nothing else of importance in the history of the illness.

Examination.—The patient is a rather large, well-formed man, the mucous membranes are of a good color, tongue moist, coated with a white fur. The eyes are markedly injected, the eyelids slightly but distinctly edematous, and an erythematous area is present above the swellings. Negative results are obtained everywhere on auscultation and percussion, except at the bases of both lungs posteriorly, where a few moist râles are heard. The heart sounds are clear. The liver and spleen are not palpable; the abdomen is soft and natural in appearance, negative results being obtained on palpation. No rose spots are seen. There is no superficial glandular enlargement. Pulse 100, respirations 24 a minute. Later the temperature ranged in the vicinity of 103 F. for three weeks and then gradually subsided. The urine is normal in color, acid, specific gravity 1.026. Microscopicallly, it shows pus corpuscles in considerable quantity, epithelial cells and a few mucous cylinders.

From such data can we solve the problem? Severe pains in the trunk and limbs accompany such infectious diseases as influenza, tonsillitis, dengue, variola, trichiniasis, and yellow fever. Muscular rheumatism can not be ignored; it is a common diagnosis of the real condition existing here. Can one exclude neuritis? Certainly not if the knee-jerks are diminished or absent, in which event tabes and anterior poliomyelitis also come to mind. Note that in the original examination no attention was given the gums, pupils, throat, blood, reflexes, or the urine for sugar. These were all subsequently found to be normal except the blood, which showed a leucocytosis with normal hemoglobin. The increased white count suggested a differential count, which, in its turn, revealed eosinophilia. Excision and histologic inspection of a bit of biceps muscle demonstrated trichinæ.

In the clinic of Dr. Adler at the German Hospital, New York, eight cases of trichiniasis with eosinophilia were admitted between Nov. 1, 1905, and Feb. 1, 1906. Trichinæ could be seen in the muscles of only three of these, yet all showed areas of infiltration and muscle fiber degeneration. To quote Ottenberg: "The combination of eosinophilia with edema of the face, which occurred in six of the above mentioned cases; muscular pains, present in all, though pronounced in only two; and fever, occurring in seven cases, makes a clinical picture which could hardly be exhibited by any disease other than trichiniasis." In his mind, "there is no doubt that when blood examinations are not made, many, if not all, particularly of the mild cases of trichiniasis, are mistaken for other affections, notably typhoid, intestinal intoxications, muscular rheumatism or influenza. Indeed, in the eight cases here recorded, six patients were admitted to the hospital as probable cases of typhoid, one as a case of muscular rheumatism, and only one with a suspicion of trichiniasis."

In temperate climates trichiniasis is the only chronic febrile disease with eosinophilia and severe muscular pains. Blood examination, therefore, renders the diagnosis comparatively easy. In the tropics other fevers accompanied by the presence of intestinal parasites complicate the situation; but in any climate these cases so closely simulate typhoid and muscular rheumatism as readily to be mistaken for either without blood examination.

CASE 2.—A boy, 14 years old, of gouty family history, complains for a year of frontal headache, not very severe, but persistent and wearing. Appetite excellent, but digestion not as good as it has been. Has suddenly grown very irritable, having previously been sweet tempered. He has lost flesh during the year and seems listless and weak. Sleeps well. Bowels somewhat constipated. Getting pale. Heart, lungs and abdomen negative. Knee-jerks not easily obtained, but gait shows weakness. Urine, normal color, acid, 1.028, no albumin. Sediment negative. Temperature 98.0, pulse 96, no edema, blood negative.

This sounds complete, but it lacks the very points which make a diagnosis possible. We consider the various causes for change in disposition, and find them enumerated as masturbation, brain tumor, diabetes, psychosis of puberty. Eyestrain, adenoids, frontal sinus disease, malaria, pubescence, are considered as possible causes of frontal headache in a boy of fourteen years. The significance of pallor is dwelt on; we reflect on loss of flesh despite good appetite, together with persistent headache and diminished knee-jerks.

Two facts not mentioned in the attending physician's report, and, therefore, omitted from the above quoted history, now come to light under the routinist—the quantity of urine passed in twenty-four hours, three quarts; and the amount of sugar in that urine, 5 per cent. The glycosuria, being persistent, denoted diabetes mellitus.

CASE 3.—A male child, 10 months old, was brought to the Infants' Hospital in Boston from a town twenty miles distant. The physician accompanying it said that he had seen the infant daily for one week, during which time its upper extremities were habitually extended over the head. Any attempt at moving them was resented by infantile shrieks. The child had been receiving a sterilized milk mixture which it had taken with avidity, and was apparently content when not disturbed. The diagnosis was double dislocation of the shoulder joints, and for their reduction the little patient had been sent to a hospital.

Further Examination.—Another student and myself were given an opportunity, through the courtesy of Dr. Stone, of verifying the diagnosis and we failed to do so. We did note, however, an unmistakably rachitic head, a slight rosary, and somewhat enlarged epiphyses; the eyes presented nothing remarkable, but, unfortunately for the first man's reputation for thoroughness, the gums were spongy and bleeding.

Treatment.—Under the circumstances it was deemed wise to heed the call for a different diet and orange juice. In less than two weeks' time the child moved all its extremities freely.

My point is that any person who had acquired the habit of examining patients systematically would have diagnosticated scurvy at once. For this and other reasons I have since that time included the gums in my routine examination of every patient.

CASE 4.—A prominent medical consultant of my acquaintance in the middle west was one day asked by a practitioner in an outlying town to see with him one of those cases of malaria which prove the "non-specific action of quinin in that disease," to use his own words. The history, in brief, was

that of one who had had regularly recurring chills every second day for three weeks, during which time quinin powders had been used faithfully without the slightest effect on the course of the disease.

Examination.—The consultant went in search of these remarkable malarial plasmodii armed with microscope, coverglasses and slides, blood-stain and a Talquist scale. At 4 p. m. the patient was found feeling chilly, temperature 100.9 F., pulse 88. Eyes, throat, gums and ears were normal. Marked pallor formed the background for the faintest flush over the cheek bones. A drop of blood from the ear showed hemoglobin, 90 per cent., and a similar drop under the microscope proved positively the absence of malarial organisms. Examination of the lungs, including inspection, percussion, palpation, whispered voice, was unsatisfactory. Auscultation disclosed below the right clavicle persistent, localized, cog-wheel respiration, indicating a partial obstruction of alveoli to the entrance of air. The remaining examination of the heart, arteries, liver, spleen, kidneys, glands, tendon reflexes and urine was negative. Potassium iodid, ten grains after meals, was ordered, and produced at the end of one week sputum containing tubercle bacilli.

Here, then, is a sample of a snap diagnosis based on regularly recurring chills without making any examination whatever.

The case also explains the origin and suggests the worth of reports, occurring not infrequently in our journals, concerning the non-specific action of quinin in malaria. Three lessons are suggested: first, the value of a routine physical examination; second, that from the blood only can a positive statement be made regarding the presence of the malarial organism; third, an intermittent fever which resists quinin in capsule is not of malarial origin.

CASE 5.—A consultant was called to see a case of convulsions with anemia in a woman of 40. We must admit the condition unusual if convulsions and apparent anemia were the only symptoms, but one can not sympathize with a man who failed to diagnosticate a disease so easy of detection as this one proved to be, because he had not examined thoroughly.

Conditions Considered.—He had considered the various causes of convulsions: uremia and hepatic toxemia, cerebral concussion or compression, diabetes, epilepsy, hysteria, sunstroke, syncope, opium, alcohol or gas poisoning and even apoplexy. None would fit. Anemia was taken for granted because of paleness. Routine examination should include inspection of the gums, where, in this instance, with the aid of a pocket magnifying glass, was found the so-called "lead line," which is not a line at all. This suggested blood smears and stippled red cells were at once discovered; hemoglobin, 90 per cent. And yet the woman was said to be anemic!

Lead Poisoning.—The "lead line" was also found on the gums of the three children of the family, and in all probability would have appeared on the father's had not his teeth been false.

Emphasis is again laid on the word "routine." Did we all have some definite, comprehensive scheme of procedure and follow it in every case, I should not in the past have been able to diagnosticate plumbism in two persons, each of whom had previously consulted two different members of the metropolitan profession for the same ailment. This case also calls to mind, as did Case 2, the wholly unjustifiable diagnosis of anemia because of paleness. Pallor may mean anemia, but often does not. Consumptives, neurasthenics, persons with deficient skin circulation are pale, but few of them are anemic. The Talquist hemoglobin scale alone can decide in the vast majority of instances.

CASE 6.—A painter, 23 years old. Family history negative. General health always good. Gonorrhea eight months ago, a slight mucopurulent discharge still persisting. Seven months ago had an attack of colic, lasting three or four days, similar to his present trouble, but less severe. Bowels move once daily without medicine. Seven days ago began to have cramps which have grown rapidly worse since and have been only partially relieved by large doses of morphin and atropin. The abdomen at first was generally tender, especially just to the right of the navel. The bowels have been constipated during the present illness, in spite of repeated doses of salts and enemata. Very little gas passes by rectum. Has vomited three times, the vomitus containing nothing of note.

Examination.—Examination shows a poorly nourished man, suffering acutely from general colicky pains in the abdomen. Expression pinched and anxious. No jaundice. Faint blue line on gums. Radial arteries slightly thickened. Heart and lungs normal. Abdomen distended and tympanitic. Between attacks of pain no marked tenderness is elicited even on fairly deep pressure. The distended, moving coils of intestine are visible through the thin abdominal walls, which are somewhat rigid everywhere. The finger high up in the rectum strikes a tender point a little to the right of the median line. The pulse is small and has been steadily gaining in frequency. The temperature taken only during the past five days has never gone above 99.0 degrees. Urine scanty, acid, high-colored, specific gravity 1.026. No sugar or albumin. Sediment negative. Leucocytes five days ago 35,000, now 19,000.

This case illustrates a mistake frequently made when one of the conditions present is so obvious as to eclipse all others—the failure to consider all the facts presented. Here are the results, for example, of a thoroughly systematic examination. Lead poisoning was so conspicuous that a leucocytosis of 35,000, which never occurs in uncomplicated plumbism, was overlooked and led to serious blunder in diagnosis. That count in conjunction with a steadily rising pulse and a distended, tympanitic, rather rigid abdomen, pointed to a probable focus of inflammation in the abdominal cavity. Operation showed general peritonitis due to appendicitis.

Instances might be multiplied indefinitely to strengthen my contention that for a thoroughly good physical examination some fixed scheme of procedure is necessary. I therefore presume to suggest one which, I feel, ought to be followed in every first examination, at least, in order that by the prominence of one or more symptoms one may not be led astray in his train of thought, may not confine his entire attention to one organ to the exclusion involuntarily of all others, may not render a snap diagnosis because of preconceived opinions.

A minimum examination should include attention to the weight, pulse in both radials at the same time, temperature, hemoglobin, blood; the urine for quantity, albumin, sugar, bile, specific gravity, reaction, and sometimes sediment; the pupils—I would almost add fundus—throat, gums, ears, reflexes, glands; the liver, spleen and kidneys, for palpation; the heart, lungs and arteries.

The tongue's appearance is of so little diagnostic importance that its routine inspection may be omitted. Dyspepsia and a clean tongue indicate hyperchlorhydria, but the so-called typhoid and scarlet fever tongues are not significant.

The hemoglobin test alone can eliminate anemia. If the scale shows less than 75 per cent. of hemoglobin, a blood examination ought to be made. This statement refers, of course, to the possibility of an anemia and does not apply to the making of blood smears to determine the presence or absence of malarial plasmodii, of stippled red cells, of an eosinophilia; or to the leucocyte count for purposes of differentiation between a possible typhoid and a pneumonia or appendicitis or

other septic condition; or to the Widal reaction. All of the latter ought to be more generally employed.

Science progresses by additions and subtractions. Nothing better illustrates progress by subtraction than the change which has taken place regarding our conception of what constitutes urinalysis. Formerly these contained references to the various kinds of cells seen, and we thought we knew their source and significance. To-day an excess of cells means exfoliation or inflammation somewhere in the genitourinary tract, the precise location being determined, if at all, by the patient's symptoms. We don't know the difference between a lymphocyte and a renal cell, hence it is more correct to speak of cellular than of epithelial casts. The various kinds of crystals are of just as little importance as cells. Hyaline and even finely granular casts may be found in any urine. One swallow doesn't make a summer or one cast a nephritis. Here, again, it is an excess of casts that should claim one's attention. They may be found after any violent exercise, in all fevers, in heart disease or anything else producing passive congestion, in senility, in the different varieties of anemia and leukemia, after the ingestion of all poisons, as well as in the three varieties of nephritis, although in Bright's disease they are usually more numerous than in other conditions. Any one of these causes may, likewise, account for the presence of albumin in the urine. The urea test is worthless, for the amount of this product in urine depends on the quantity of nitrogenous foods eaten, the digestion, absorption and the amount the individual normally retains. Equally worthless are the indican, phosphate, chlorid and uric acid tests.

If I could know but two things about a specimen of urine, I should ask for the twenty-four hour amount, and whether the greater part was passed during the day or night. One can easily inform himself, however, concerning the other points mentioned in the minimum examination. Never look for anything else, unless it be diacetic acid and acetone, and then only—save in cases of cyclic vomiting in children—if sugar be present. Personally, I never examine a sediment unless albumin is present.

No one questions the value in every case of examining such organs as heart and lungs. Many, however, will demur at the ears, and yet tophi have been found in them; the gums have been known to disclose lead poisoning; throat examinations, especially in very young children, often reveal diphtheria which might not otherwise be suspected until too late. Kidney palpation, it is said, will demonstrate 50 per cent. of all kidneys to be movable in the female, a condition to which innumerable symptoms are attributed, and in connection with which it is well to bear in mind the opinions of men of large experience, that it is not the movable kidney, rather is it the knowledge of its presence that accounts for symptoms; and, lastly, after systematic examination of each patient's arteries, no one of us will ever be guilty of the question, "Is arteriosclerosis often seen?" only to be told, "Yes; it is one of the commonest conditions we meet"; for the arcus senilus, the hot feet of old persons and the burning hands of old washerwomen, the headaches, vertigos and hemiplegias of those past forty, angina pectoris, chronic interstitial nephritis, and the so-called visceral gout of the English are all manifestations of arteriosclerosis.

The examination which I propose requires from thirty to forty minutes time. If it were adopted and used intelligently, I do not hesitate to express my belief that it would supply us with more valuable information concerning the physical conditions of our patients than we are now generally obtaining. When we cease to commit the common sin of omission, we shall retain our patients instead of compelling them to seek aid of osteopath, so-called Christian scientist or other charlatan, to whom, be it said to our shame, many persons resort because the regular practitioner has not "made good."

A PLEA FOR THE PROMPT EVACUATION OF THE UTERUS IN THE TREATMENT OF ECLAMPSIA.*

HENRY D. FRY, M.D., Sc.D.

WASHINGTON, D. C.

In the whole range of obstetric practice, two diseases have claimed pre-eminently more victims and brought more sorrow into the human family than all others combined. They are sepsis and eclampsia.

For centuries a cloud of mystery obscured the causes of these two diseases. That of childbed fever baffled research until the brilliant observations of Semmelweis, and the later investigations of Pasteur revealed the cause and pointed out a line of treatment, both prophylactic and curative. Asepsis has almost eliminated puerperal infection, and the vigorous campaign waged against germs for the past half of a century has antagonized their virulence to such an extent that we seldom see now the destructive ravages of this disease. But what about eclampsia?

Zweifel has well said: "It is a disease of theories." About the time that Semmelweis made his fruitful observations regarding the cause and prevention of childbed fever Lever and Rayer demonstrated the presence of albuminuria in eclamptic patients. Frerich pointed out the close resemblance of eclampsia to the uremic convulsions of Bright's disease, and the attention of investigators was focused on the kidneys. The later destruction of theories founded on this line of investigation opened Pandora's box and a multiplicity of evil influences have been since evolved to explain the nature and causes of the disease. It is unnecessary even to enumerate these various theories, or, as they may be called, fancies. Passing over intermediate ground one comes to more recent studies and looks with encouragement of success to the theory of autointoxication. Intimately associated with fetal metabolism is the development of a toxemia in the pregnant woman. The nature of the poison and its source are yet unknown. The antagonism of healthy organs to the poison and its elimination from the system of the pregnant woman are important points for future study to elucidate. We believe that the effect of the poison is to produce certain visceral lesions, principally of the liver and kidneys, which, if unchecked, will pass beyond repair and lead to a fatal issue. Functional inactivity of the liver is the usual accompaniment of pregnancy. Hepatic involvement leading to degenerative changes, thrombosis of the perilobular veins and necrosis, further cripples the function of the liver. It is unequal to the task of disintoxication of the poison and a hepatic toxemia is induced.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Eliminating fancies from consideration, I shall deal only with facts.

The essential facts bearing on the line of treatment advocated in this paper are these:

Eclampsia occurs before, during and after labor.

It may end fatally without the occurrence of convulsions; after one or a few convulsions only; or not until after a number of convulsions. It is admitted, however, that the maternal mortality increases progressively with the number of convulsions.

The termination of pregnancy, spontaneous or artificial, exerts a beneficial influence over the disease.

Death may occur before or after the termination of pregnancy.

Postmortem lesions are found principally in the liver, kidneys, heart and brain. Hemorrhagic foci and necrotic changes are demonstrated.

The termination of eclampsia in recovery or death depends largely on the progress of these visceral lesions. If the lesions have passed beyond the reparative stage before the termination of pregnancy, death will necessarily result. There is no way to determine the progress of these lesions. They may have passed the reparative stage before the onset of convulsions, but ordinarily this is not the case until after a number of convulsions have occurred. In evidence of this is the recovery of many eclamptic patients in spite of the fact that repeated convulsions had taken place. The danger line may be passed early or late in the toxemia. Having no means at our command of ascertaining when the lesions begin and to what extent they have progressed, the only safe rule to make is to terminate the pregnancy as soon as possible after the first convulsion.

Eliminate pregnancy and cut off the source of supply of the poison; then only is one in a position to eliminate successfully by treatment the poisonous agent or agents circulating in the woman's system. Her liver and thyroid gland may then be equal to the task of disintoxication, and her bowels, kidneys, skin and lungs to that of elimination.

On the other hand, most of the text-books of obstetrics and many obstetric writers give secondary importance to the obstetric treatment and primary importance to the general treatment of the toxemia. If labor pains have not begun they advise chloroform, morphin, chloral and veratrum viride to control the convulsions, and hot baths or hot packs, purgatives, salt solution, blood letting, etc., to eliminate the poison. Twenty-four hours, sometimes forty-eight hours or even longer are lost during which fresh toxin is being absorbed and pathologic visceral changes are progressing. These antepartum cases of eclampsia are the most serious with which we have to deal and give the highest mortality rate. We should take no chances in such a desperate condition, by attempting to eliminate a poison while the source of supply is allowed to go on. Treat a case of eclampsia just as you would a case of placenta prævia and recognize that the woman's safety depends on the immediate evacuation of the uterus. In one case you stop fetal metabolism, and in the other you stop hemorrhage. Having accomplished the evacuation of the uterus as soon as consistent with the safety of the woman, then, and not before, use your energies to eliminate from her system the poison that has already been absorbed. Consider the pathologic lesions that the poison is producing and save your patient's life, if possible, by emptying the uterus before these lesions have passed the reparative stage. Take nothing for granted. The progress of these visceral lesions is an unknown factor. Try to act on the safe side of the danger line, and to do this act at once. If your patient has had one convulsion do not wait for her to have two. Do not waste valuable time by eliminative treatment of the toxemia.

By this method the mortality of eclampsia will be reduced to its lowest figure. If, in spite of the prompt evacuation of the uterus, a fatal issue be the result, it is because of the early involvement and rapid progress of the visceral lesions. To save patients in this class of desperate cases one must wade up-stream and shut off the current of poison in the pre-eclamptic stage. This radical treatment is urged until we have a better method founded on better pathology. Future work may elucidate the nature and sources of the poison and point out a better line of treatment, but at present let us acknowledge our inefficiency and in the meantime save the lives of eclamptic women by terminating the pregnancy.

Besides the visceral lesions recognized as resulting primarily from the toxemia, postmortem examinations reveal secondary lesions in various organs due to complications which are liable to ensue. They are edema and congestion of the brain, apoplexy, edema of the larynx or lungs, pneumonia, nephritis, degeneration of the myocardium, etc. The frequency and extent of such secondary lesions bear a close relation to the number of convulsions that have occurred; therefore, another indication exists for the termination of pregnancy by prompt evacuation of the uterus, because that line of treatment is the quickest method of checking the recurrence of the convulsions.

In November, 1904, this method was adopted at Columbia Hospital and since then in my private practice. We can now report 15 cases of eclampsia and 1 of pre-eclamptic toxemia, with 1 maternal death. These cases were under the care of Drs. Moran, Sprigg, Roman, Kelly and myself.

The accompanying table shows these reports in abstract.

Thirteen of the cases were of primiparæ and 3 of multiparæ.

Ten were antepartum, 5 full term, and 1 not stated.

The number of convulsions that had occurred before artificial evacuation of the uterus was, respectively, 8, 16, 4, 7, 4, 3; not mentioned, 0, 2, 5, 3, 5, 1,1,1, 1. Twelve of the patients had no convulsions after the evacuation of the uterus; 2 had 2 each, and 2 had 1 each.

Three of the patients who had no postpartum convulsions were comatose for some time. One of these recovered after ten hours' coma; one developed puerperal mania and recovered, and one died after twelve hours' coma. In the fatal case (Dr. Kelly's, No. 7) the patient was abandoned by one physician; she was comatose when she came under the care of a second physician at noon Aug. 23, 1907, and when Dr. Kelly operated, without anesthesia, about 6 p. m. of the same day, she was practically moribund.

The methods employed to effect prompt delivery were: vaginal Cesarean section, in 12 cases; manual dilatation and forceps in 2; multiple incisions, manual dilatation and forceps in 1; symphyseotomy and forceps in 1. After vaginal Cesarean section, delivery was completed by podalic version or forceps. Patient 14 was a primipara who had a convulsion after fourteen hours of labor at full term. I saw her immediately after the convulsion and found a contracted pelvis (obstetric conjugate 3 inches). Symphyseotomy was

performed and the infant delivered by forceps. There was no return of convulsions. Patient 8 was delivered by vaginal Cesarean section and podalic version on account of pre-eclamptic toxemia. In spite of active treatment, the gravity of the symptoms increased and the patient was on the verge of convulsions. She suffered from the usual symptoms of toxemia, had albuminuric retinitis, a large amount of albumin and casts with deficient kidney excretion. The report of this case is included in the table in order to give a full record of all the vaginal Cesarean sections that have been performed at Columbia Hospital. The vaginal Cesarean section, Case 8, was performed at my private hospital.

Statistics of eclampsia treated in public hospitals naturally give a worse result than those obtained from private sources. The uterus may be evacuated promptly

Case	Operator	Date	Age	Color	Para	Duration of Pregnancy Months	Number of Convulsions Before Delivery	Method of Delivery	Number of Convulsions After Delivery	Results	
										Mother	Child
1	Dr. Moran	12/ 2 '04	21	W	1	7	8	Vaginal Cesarean	None	Recovered	Lived a few hours.
2	Dr. Moran	12/25 '04	22	C	1	7	16	Vaginal Cesarean	One	Admitted in eclampsia. Recovered.	Premature. Lived six hours.
3	Dr. Sprigg	3/ 6 '07	30	C	3	6½	4	Vaginal Cesarean	None	Admitted in eclampsia. Recovered.	Still-birth.
4	Dr. Sprigg	6/14 '07	24	W	1	9	7	Vaginal Cesarean	None, but very restless and comatose for longtime. P. mania.	Admitted in labor. Recovered.	Lived.
5	Dr. Sprigg	11/21 '07	23	W	1	7½	5	Vaginal Cesarean	None	Admitted in eclampsia but not in labor. Recovered.	Lived, although premature.
6	Dr. Sprigg	10/30 '06	22	W	1	9	3	Multiple incision of cervix Manual dilatation and forceps.	Two	Admitted in labor. Recovered.	Still-birth.
7	Dr. Kelly..	8/23 '07	19		1	7½	?	Vaginal Cesarean	No convulsions, but never became conscious.	Comatose when admitted. Died.	Lived a few hours.
8	Dr. Fry...	11/18 '04	23	W	1	6½	0	Vaginal Cesarean	None	Pre-eclamptic toxemia. Placenta prævia. Recovered.	Lived 2 hours.
9	Dr. Fry...	4/11 '06	23	W	1	8½	2	Vaginal Cesarean	None	Admitted in labor. Recovered.	Lived few hours.
10	Dr. Fry...	3/25 '07	16	C	1	?	5	Vaginal Cesarean	One (slight)	Admitted in eclampsia. Recovered.	Lived few hours.
11	Dr. Fry..	11/ 9 '07	33	W	1	9	3	Vaginal Cesarean	None	Admitted in eclampsia. Recovered.	Lived.
12	Dr. Fry...	12/11 '07	17	W	1	7	5	Vaginal Cesarean	Two	Admitted in eclampsia but not in labor. Recovered.	Lived 23 days; premature.
13	Dr. Fry...	1/ 4 '08	32	W	1	7	1	Vaginal Cesarean	None	Recovered	Lived 3 months.
14	Dr. Fry...	5/18 '06	23	C	1	9	1	Contracted pelvis. Symphyseotomy and forceps.	None	Recovered	Still-birth.
15	Dr. Fry...	12/ 3 '07	30	W	1	8½	1	Mid-forceps after manual dilatation.	None, but comatose for 10 hours.	Recovered	Lived.
16	Dr. Roman	2/11 '08	25	W	1	9	1 severe	Mid-forceps after manual dilatation.	None	Recovered	Lived.

in the sense of operating on the patients immediately after admission to the hospital, but unfortunately a large majority of these patients have been neglected and have had numerous convulsions before being brought to the institution. Only five of the fifteen patients tabulated, strictly speaking, can be said to have been delivered promptly; that is, they had had less than three convulsions. One of the patients had had 16 convulsions; one, 8; one, 7; three, 5; one, 4, and two, 3. In the fatal case (No. 7) the patient was almost moribund when admitted, and should not, in truth, be counted against the method. Patient 2 had had 16 convulsions and recovered. One maternal death in the 15 cases gives a mortality of 6.66 per cent. Cases 8 and 15 were treated in my private hospital, and, as they represent clearly the method of treatment advocated in this paper, I will report them briefly.

CASE 8.—*Patient.*—Mrs. B., II-para, aged 30. First pregnancy and labor normal.

Present Pregnancy.—Urinalysis during the second pregnancy was satisfactory until the eighth month of pregnancy, Nov. 22, 1907, when a large amount of albumin and a few hyaline casts were reported. The patient had taken a long automobile ride a few days before and the weather was decidedly chilly. November 25, she passed 88 ounces of urine with less albumin, specific gravity 1009, urea gr. 3 per ounce. November 27, urine was 108 oz.; albumin and specific gravity the same, urea gr. iv; November 28, 96 oz.; albumin 5 per cent. by volume, specific gravity 1008, urea gr. v; few hyaline casts. The patient entered my private hospital Nov. 28, 1907, and received active treatment. The large output of urine was due to slow colonic irrigation with normal salt solution. Her headache and nervous irritability increased and at 12:50 p. m. December 3, she had a convulsion.

Operation.—She was immediately carried to the operating room and chloroformed. The cervix was found to be effaced, the os softened and dilated to about the size of a silver half-dollar. Dilatation was completed manually and the infant delivered with forceps in seven minutes.

Postoperative History.—The patient was returned to bed and remained unconscious for ten hours. Her mind cleared up; there was no return of convulsions, and the urinalysis became normal after Dec. 27, 1907. The infant was about two weeks premature, weighed 6 lbs. 8 oz., and increased to 7 lbs. 4 oz. at the time of leaving the hospital.

CASE 15.—*Patient.*—Primipara, aged 32.

Pregnancy.—Last menstruation May 22, 1907. The patient passed a normal pregnancy and urinalysis was satisfactory until Dec. 29, 1907. On December 23 she passed 32 oz. of urine; specific gravity 1024; no albumin; urea gr. xiv per ounce; no casts. December 27, she noticed swelling of the ankles and had a headache in the morning. December 28, she had a severe headache all day; her face was swollen and she

passed little urine. On December 29 I was called to see her at 10 o'clock at night, suffering, as she supposed, from "biliousness." She had severe headache, was vomiting, and her eyelids were edematous. A specimen of urine was obtained and it solidified by heat. Morphin was given hypodermically and a nurse was placed in charge of the case for the night. The next morning, December 30, the patient was brought to my hospital. The urine contained 75 per cent. albumin, hyalin and granular casts. The patient was treated actively by purgation with salts and given slow colonic irrigation with normal salt solution. Hypodermics of morphin were given p. r. n. to relieve her vomiting and restlessness and 15 grains of thyroid extract daily. She had a severe convulsion at 6 p. m. Jan. 4, 1908. In the meantime the condition of the urine showed improvement. The total quantity excreted was not ascertained December 31 and January 1, on account of the free purgation. Ten ounces on December 31 gave a specific gravity of 1020; 50 per cent. albumin; hyalin and granular casts. On Jan. 1, 1908, urine was 18 oz.; specific gravity, 1016; albumin, 25 per cent.; casts same; January 2, 48 oz.; specific gravity, 1018; albumin, 30 per cent.; urea gr., v; casts less. On January 3, for the twenty-four hours preceding the convulsion the patient passed 300 gr. of urea, and the amount of urine was 50 oz.; specific gravity, 1015; albumin, 40 per cent.; urea, 1 per cent.; casts same as previous examination.

Operation.—Immediately after the convulsion the patient was carried to the operating room and chloroformed. The cervix was not effaced; the os was closed. Vaginal Cesarean section was performed, with podalic version and forceps to the aftcreoming head. Delivery occupied ten minutes; the operation was completed in thirty minutes and the patient put back in bed.

Postoperative History.—The patient recovered with no return of the convulsions. On the second day after the operation the urine amounted to 104 oz.; specific gravity, 1010; albumin, 10 per cent.; urea gr. ivss; few casts. From January 10 to 16, inclusive, there was only a trace of albumin and after January 18 it disappeared. There were no casts after January 20. On the seventh day after the operation the patient had a severe secondary hemorrhage from between the bladder and cervix. The cervical incision had been sewed with chromic catgut. The cavity was washed out with hot water and packed with sterile gauze. No further complications during convalescence. The infant weighed 3 lbs. 4 oz., was asphyxiated, but soon revived. It was placed in the incubator and fed by gavage. The infant seemed vigorous and was removed from the hospital when two months old. It died from an acute attack of indigestion when three months old. It weighed 5 lbs.

The mortality of the infants is high by this treatment of immediate delivery, but not more so than by pursuing a conservative line of action. The removal of the infant from its dangerous environment does not diminish its chances of survival any more than to leave it *in utero* subjected to the influences of maternal toxemia and to that of the eclamptic seizures. In these 16 cases the infants were premature in 10; full term, 5; not mentioned, 1. There were 3 still-births. Six infants lived only a few hours after birth; one, 23 days, and one, 3 months. Five of the 16 survived—a mortality of 69 per cent.

The mortality of the full-term infants was 40 per cent., and of the premature, 80 per cent.

It is only a fair inference to make that some of the infants that died could have been saved by more timely interference.

The number of cases of eclampsia which forms the basis of the conclusions arrived at in this paper is too small to formulate any rule if unsupported by the work of other investigators, but the lowest maternal mortality obtained by any method of treatment is by the immediate termination of pregnancy.

Liepman[1] says that the statistics of the clinics at Würzburg, Basel, Halle and Berlin give a mortality of 25 or 30 per cent. under expectant treatment and 2.8 or even 1.8 per cent. after immediate delivery. Zweifel[2] reports a mortality of 28.5 per cent. under expectant, and 11.25 per cent. under active treatment.

Glockner[3] gives the result of operative interference in 143 cases in the Leipsic clinic, with a maternal mortality of 15.49 per cent. At the Congress of Obstetrics and Gynecology, Paris, 1899, Ferri,[4] of Milan, reported 82 cases of eclampsia treated by artificial dilatation of the cervix, with a maternal mortality of 7 per cent.

According to the Bureau of Statistics of the Census Department, about 2,606,860 babies are born annually in the United States. Making due allowance for the usual proportion of plural births, this would represent 2,592,378 labors. Estimating one case of eclampsia to each 400 labors would give 6,480 cases of eclampsia every year. Under the expectant plan of treatment the mortality is placed at 25 per cent., and under prompt evacuation of the uterus, 10 per cent., a saving of 15 per cent. This means that by radical treatment, instead of the expectant, the lives of 972 mothers will be saved each year in the United States.

1900 Q Street N. W.

ABSTRACT OF DISCUSSION.

DR. LAURA HOUSE BRANSON, Iowa City: For the past four or five years I have been much interested in the study of syncytioma malignum; from that study I have concluded that a great deal of the toxemia of pregnancy is of fetal origin. Believing that, I advocate the view which Dr. Fry has promulgated, namely, that the uterus should be evacuated promptly and that no time should be lost in inducing labor in all cases of toxemia manifested by eclampsia. I advocate the prompt evacuation of the uterus in eclampsia, because of the high rate of mortality, the lives of both mother and child being in the greatest of danger in this disease, for which we possess no adequate means of treatment.

I advocate the evacuation of the uterus in primiparæ—and, in fact, in all patients—in whom convulsions occur before labor; I base this opinion on the summary of statistics at our disposal, among them those recently given by Partridge: in 1,577 cases of labor there were 56 cases of eclampsia, or 1 case of eclampsia in every 28 cases of labor; in 59 per cent. of these, convulsions occurred antepartum. Out of 33 antepartum cases in which labor was induced, convulsions ceased in 30. Sixty per cent. were primiparæ; average age, 27 years; maternal mortality, 30.3 per cent.; fetal mortality, 31.3.

DR. WILLIAM MERCER SPRIGG, Washington: The result of the treatment outlined by Dr. Fry will give renewed hope to the country practitioner who may not be fortunate enough to have special hospital advantages. Dr. Fry has told us in his study of the cases that we have no means of knowing what the toxemia is or how great the toxic effect is going to be on the mother and child, and that it is important to empty the uterus promptly with the first eclamptic attack. If pregnancy has advanced to the term of viability of the child and there are positive symptoms of threatened eclampsia, I urge that the uterus be emptied promptly unless the symptoms subside within twenty-four hours or show marked improvement. We know that after the seventh month, or at seven and a half months, there is a good chance of saving the life of the fetus. The danger to the mother and child increase with the number of convulsions and by delay both lives are endangered. My own procedure in pre-eclamptic cases, when the mother was near term, and when symptoms did not promptly subside, has been to empty the uterus and I have never regretted doing so; but there have been times when I believe the uterus has

1. Thera. Monats., April, xxii, No. 4, Berlin.
2. Williams' Text-Book of Obstetrics, 1908, p. 543.
3. Peterson's Practice of Obstetrics, 1907, p. 803.
4. Peterson's Practice of Obstetrics, p. 807.

been emptied too late and two lives lost in consequence. We must realize that as long as we do not know the poison we are dealing with it is our duty to give the mother and child every chance for their lives by emptying the uterus. Especially is this true in the light of our present lack of positive knowledge either in regard to the liver changes or the kind or amount of toxins circulating in the blood. If we wait for the eclamptic attack we are going to increase our mortality. Many of the patients in our hospital cases are sent in after they have had convulsions—one or two, as a rule more. As an illustration of the importance of not waiting for the convulsive seizure I would mention a patient that came into Columbia Hospital, Washington, D. C., about eight months ago for delivery. She was examined by the interne and a history of her case taken, which was negative. During the night she began to have headache; in the morning the urine was found to contain a small amount of albumin; specific gravity low; urea deficient. The headache continued to increase; there were flashes of light before the eyes, and in twenty-four hours the patient was almost totally blind. In thirty-six hours from the beginning of the symptoms the uterus was readily dilated (manually) under the influence of a small amount of chloroform. At no time was she completely anesthetized. Forceps were readily applied and a dead fetus delivered. The woman partially regained consciousness and died four hours later as a result of profound toxemia without having had a convulsion. This case illustrates the fact that we do not know when or how great these toxic changes are going to be. We must recognize this fact and follow the procedure which will give us the smallest mortality. The question of how this should best be done is of great importance. There are times when manual dilatation can be done with safety. If the symptoms of intoxication are slight and the uterus readily dilatable, you can take the time to dilate manually. If, however, the woman is a primipara and in convulsions, and the manual dilatation is difficult or impossible, and it is important to rapidly empty the uterus, and the child not too large to be delivered safely by the vagina, we have a procedure for this condition which is rapid and safe—that of vaginal Cesarean section. Professor Martin graphically described to you how easily vaginal section can be performed. It is an easy operation except in very fat women, and in such cases the operation is easy but the repair difficult.

DR. H. J. BOLDT, New York: We are all agreed that in these cases the uterus should be emptied as rapidly as possible. It is not a question of how many hours we are to wait before we interfere with the conception product, but it is a question of the severity of the eclamptic attacks. If the conditions are favorable there should be delivery by dilatation and version or the application of forceps. If, however, as Dr. Sprigg said, the condition is not favorable for that, we should pursue that course which gives us the quickest delivery, and that is vaginal Cesarean section. In still another class of cases there are seizures subsequent to the delivery of the child. Up to a comparatively short time I have held myself aloof from endeavoring to see what can be done by the decapsulation of the kidneys strongly advocated by our confrère, Dr. Edebohls. The reports from this procedure are coming in more and more from all civilized parts of the world. I believe, therefore, that as conscientious men and as investigators we should not be partisan, but when the necessity seems present make use of procedure which has, in other hands, proved life-saving.

DR. R. S. YARROS, Chicago: Until we know the exact cause of eclampsia we can know very little about the medical treatment of it, and it certainly seems that the best results follow from a prompt evacuation of the uterus. Even the infant mortality is greater than when radical treatment is postponed, as is illustrated in public hospital practice, where patients are taken, usually after hours of delay and more or less expectant treatment by some outside physician. In my own private practice I recall a patient who at the end of her fourth pregnancy had symptoms of threatened eclampsia, was treated by the expectant method for three days, when the child was born naturally. About twelve hours after delivery the child had two convulsions and died. The next pregnancy of the same patient was perfectly normal until four hours after the onset of labor pains, when she had a typical eclamptic convulsion. Before I had time to prepare myself for immediate delivery she delivered herself. That child, too, had a slight convulsion, and some albumin was found in the urine, but under proper treatment recovered. Let me in this connection add that we frequently forget that the children born of eclamptic mothers are in a toxic condition and should be treated as such.

DR. BERNARD COHEN, Buffalo: Dr. Fry did not touch on one of the principal things to do with the pregnant woman. If the physician or obstetrician gets a chance to educate the women who come to him early, many of these cases of eclampsia will not occur. The obstetrician usually finds the woman with a convulsion. In the smaller country towns this is just as likely to occur as in the cities. I want to persuade those who live in the small towns, if they are not fully equipped with the instruments needed or familiar with the technic of vaginal Cesarean section, to become acquainted with the original Sänger operation. If the patient's condition in a case of eclampsia is good, advise that the physician dilate with the fingers and empty the uterus after the methods of Harris and Edgar. Let him do it the way he knows he can do it, but let the uterus be emptied. Those who see the pathologic results of eclampsia, the brown, necrotic condition of the liver, know the importance of this. I have seen many a time the postmortem specimens of the kidney in which there was not the slightest lesion. In numerous cases seen by Ewing the liver was broken down with necrotic foci, and in only a few of the cases were the kidneys in a pathologic condition. The poison is immediately sent from the liver to the brain and if you allow a woman to have convulsions for any length of time it leaves some lesion. The child should not be allowed to nurse from an eclamptic mother for at least three weeks.

DR. J. H. CARSTENS, Detroit: The point made by Dr. Cohen about having the woman attended to before confinement is good. You can prevent cases of puerperal convulsions by bringing on labor. There are various methods besides operation, and there is no reason why we should not make use of those at the present time. In the hospitals we use manual dilatation. We can use the Bossi dilator and various other methods to evacuate the uterus quickly—the vaginal Cesarean section, so-called, or another Cesarean section. What I plead for is that the general practitioner familiarize himself with the method of doing this operation. He can do it if he will simply go to work at it, and it is our duty to teach the general practitioner how to do it. He can get somebody to help him, and the danger of vaginal Cesarean section is so small and the results so very good that every one ought to be prepared to do it. The patient is going to be dead in an hour or two unless something is done and you have got to save her just then.

PROF. AUGUST MARTIN, Berlin: If eclampsia is a symptom of infection we must be careful not to add to this infectious poison. It is still to be determined what kind of an infection it is. It is generally believed to be a poison developed in the ovum. I do not so regard it, because we know that eclampsia has been observed in cases of very early pregnancy in which there was no fetus, in cases of degeneration of the ovum. Evacuation of the uterus must be done as soon as possible, when the uterus is preparing for the expulsion by stretching the uterus, or if this is not going on then by opening the uterus by vaginal Cesarean section. I believe that in most instances thereby the danger can be avoided. Nothing has been said as to prophylaxis. I think that this important matter should attract the utmost attention of the general practitioner. We frequently hear that the patient has felt all right. She may have had a little headache or felt rather tired and then like a thunderstorm the disease sets in. If you study these cases more intimately you will find that this is not the way the disease develops. In many instances these patients have long suffered from severe headache in front and behind and loss of appetite. They feel rather uncomfortable and very

tired so that they can not sleep. They have disagreeable dreams and other symptoms that may belong to the regular manifestations of pregnancy, but what is in most instances not observed is the condition of the working of the kidneys. I have never thought that the kidney disease is the cause of eclampsia; it is only one symptom of the poison and is not in every case to be observed clearly; but in most instances it can be found. I advise you to observe in all pregnant women the condition and the function of the kidneys. If you have to deal with intelligent people, they will tell you that the quantity of urine has been diminished for a long time. At the same time that ominous swelling of the legs has set in and does not disappear when the patient has been lying in bed. The pregnant woman ought to be taught to measure the daily quantity of urine, particularly when there is any swelling and headache. In most instances you should remark the increasing content of albumin. You should see in the urine those cells, those corpuscles which are so very ominous before the incipient disease of the kidney. We know now that some other chemical conditions of the urine are of high importance, but not well enough to allow us to depend on them. As far as I can see it is always very easy for us to point out the diminution of the urine, the increase of the albumin, the appearance of cylinders and these fatty degenerated cells which call our attention to the coming danger. Another point which ought to be recognized is the tension of the pulse. You will find that the pressure increases rapidly. Pay attention to the urine, pay attention to the condition of the pulse and you will find that the development of the poisoning is easily recognizable long beforehand; and if you do so then comes the question what to do. We know that there is quite a remarkable connection between the function of our skin and the function of our kidneys, and if we induce sweating, if we apply hydrotherapeutics, we frequently see that the quantity and quality of the urine improves and that the tension of the blood vessels diminishes. In such instances we can wait. But if the condition does not improve while the sweating is going on, if all these symptoms continue even if the albuminuria is not increasing, you should place the patient in a hospital or a sanitarium. The danger of eclampsia is so great that we are entitled to insist that our patients go under such treatment at once. If under hospital treatment the symptoms do not disappear, then I think the proper time to interfere with the pregnancy has come. You may do that in any way, but all interferences must be determined by their effects. We know that the introduction of bougies is a very good means to induce premature labor, but this requires some time, and if the uterus is not prepared at all, if the cervix or the os uteri is not dilated, I think then these means are not the proper ones. If the danger is recognized as imminent I think you should deliver at once, and then the vaginal Cesarean section is the method to employ. Undoubtedly the mortality in this disease has been diminished already a good deal, and you must not forget that part of the statistics were taken while there was a deficiency in asepsis. Now no obstetrician will touch his patient without perfect asepsis, and this will lead to an improvement of the statistics. In viewing the mortality we must divide the cases which have come under our treatment in convulsions from cases that have been observed under prophylactic treatment to get a correct percentage of the mortality.

DR. CHARLES JEWETT, Brooklyn: With Dr. Fry's position I am substantially in accord. That the eclamptic condition is due to fetal metabolism I am not prepared as yet to say. I am inclined to the belief that the toxemias of hepatic origin in most cases; in others it is primarily renal. With reference to the evacuation of the uterus, all agree that with pre-eclamptic symptoms in the non-viable period it is desirable, if possible, to carry the case beyond the seventh month. When, however, the pregnancy is well along in the viable period there should be no delay in emptying the uterus should convulsions be present or imminent, and especially is this the case when other measures have been tried to no purpose. I may mention a case which emphasizes the point made in Dr. Fry's paper. I saw the patient in consultation a few hours before leaving home and was obliged to leave her in charge of one of my assistants. The urine was reduced to seven ounces per day, contained about 25 per cent. of albumin, and the condition was in every way desperate. All medicinal and dietetic measures had failed. Dilatation was done manually and the woman delivered of a six-and-a-half pound fetus. During the next twenty-four hours the urine rose to twelve ounces, within forty-eight hours to sixty ounces, and the woman is now making a good recovery.

DR. W. H. WATHEN, Louisville: I have no confidence in the belief that eclampsia is the result *per se* of the disease of any organ of the human body, but believe that it is the result of an enzyme toxic product that is generated more probably in the epithelial structure of the chorion by some means that we now do not understand, absorbed into the system and, if not eliminated, finally results in eclamptic seizures. We know that the kidneys are the most active organs of elimination, but the kidneys become poisoned by these enzymes and, therefore, we have albuminuria and the other evidences of the disease of the kidney. Hence we may get good results sometimes in eclamptic seizures by decapsulation or even by splitting the capsule of the kidney. It is not because the kidney is causing the disease, but because the kidney will then better eliminate the poison. We find the symptoms of edema, but these are only symptoms preceding the attack. If we get rid of these deadly enzymes we may prevent the occurrence of the seizures and our patients pass through labor without trouble. Here is a field for work. What causes this generation of poison? Is it generated in the epithelial structure of the chorion and, if so, why generated there? What can we do to prevent it? Can we not by experimental research find some antitoxic product that may be injected to antagonize and destroy it?

DR. H. D. FRY, Washington, D. C.: Since I have listened to this discussion I begin to wonder what my paper was about. I read a paper with this title, "A Plea for the Prompt Evacuation of the Uterus in Eclampsia." I did not take up the subject of how to prevent it and how to treat patients beforehand. There are hundreds of very interesting subjects connected with eclampsia and any one of them would make a paper, but I wanted to present a paper on a single topic, viz.: the advisability of emptying the uterus when eclampsia exists. I think all this discussion has not been connected with my paper at all. I disagree with Dr. Carstens when he says that vaginal Cesarean section is a very easy operation and that we ought to teach all practitioners to perform it. They may learn it if they have the surgical ability, but it takes a man doing surgical work. To teach a man who does not do surgery to dissect up the bladder and expose the anterior wall of the cervix clear up to the internal os, and slit that, I say, is a difficult thing to do, and a man who is doing only general work ought not to do it. There is not only extreme danger of injury to the bladder, but when the operation is finished it is a difficult thing to expose the upper angle of that incision to begin the closure of the wound. I particularly disagree with him that we should teach every practitioner to believe that he can do vaginal Cesarean section. I know of one instance in which a doctor started the operation and had to abandon it because he was not accustomed to such work. I think that decapsulation of the kidney has fallen into disrepute in these cases. We know that there is an antecedent condition of hepatic toxemia. This operation may be employed as a help in the postpartum cases, but I did not say anything about postpartum cases. Dr. Boldt and others have said that we all agree on this being the proper treatment; but go home and take down your obstetric text-books, the latest edition; there is not a single one of them that gives primary importance to the obstetric treatment of eclampsia. All tell you how to treat the convulsion and what to do to eliminate the poison, and then in the last part of the subject of treatment it comes to the obstetric point and you are told that some empty the uterus and others do not. There is no positive opinion given about it and this is where the teaching should go out—it should be put first; empty the uterus and then eliminate the poison.

MIXED INFECTIONS IN TUBERCULOSIS.*

MAZYCK P. RAVENEL, M.D.
Professor of Bacteriology, University of Wisconsin.
MADISON, WIS.

It is a sad commentary on our methods of investigation that with so much material at hand we are still at sea as to the exact part played by mixed or secondary infections in the history of a case of tuberculosis. Opinions differ widely, even on essential points, which apparently should not offer any great difficulties of solution. If one examines the sputum in a series of fairly well advanced cases of consumption he can not but be struck by the variety and number of micro-organisms found, as noted by Koch, Cornet, Babes and others early in the study of tuberculosis from the bacteriologic standpoint. Still more striking is it to note that many of the micro-organisms are found in cavities located deep in the lung, and in the walls of these cavities to a certain depth. Cornet has shown that the micro-organisms of secondary infections often advance into the tissues faster than the tubercle bacilli; while Kossel and Cornet have demonstrated them in miliary tubercles widely separated from the original focus, apparently proving that they had entered the blood simultaneously with the tubercle bacilli. It seems impossible to believe that bacilli and cocci of such well-known pathogenic power as those most frequently found in washed sputum, as well as in cavities and the neighboring tissues, can live and multiply in close association with the tubercle bacilli without in some way modifying the morbid changes in the affected tissues, and consequently the symptoms.

Many observers attribute cavity formation and the destruction of tissue to secondary infections. This view was apparently confirmed by the experiment of Prudden many years ago, when he found that cavity formation took place in the rabbit only after a second inoculation of streptococci. It is of course well known that cavity formation seldom takes place in animals after inoculation with pure cultures of tubercle bacilli, even when the type of the disease produced is very chronic.

Cavity formation, as seen in the chronic ulcerative type of tuberculosis, is practically peculiar to man, the monkey being the only other animal in which anything like it is commonly encountered. In cattle large caseous abscesses are found which usually persist for a long time. Secondary or mixed infections do not seem to be found with anything like the constancy seen in man, though I do not know of any extensive study that has been made on this point in cattle. In swine there is a marked tendency to fibrosis of the lung, and little or no tendency to cavity formation.

It can hardly be held that the lower animals are free from exposure to harmful bacteria, though they are not susceptible to certain organisms like the influenza bacillus, which is believed to be especially harmful to persons with tuberculosis, and probably are much less susceptible to other secondary infections frequently found in man, such as the pneumococcus, streptococcus and staphylococcus. The explanation of these differences must, I believe, be looked for in some specific power of resistance to infection, or mode of reaction against the invading organism by the tissues involved. That such differences exist is shown, for example, in the tendency of lesions in cattle to undergo calcification rapidly, rather than the caseation seen in human tissues.

In an attempt to determine the rôle played by the organisms of secondary infections Dr. Irwin and myself examined the washed sputum of a number of patients, the contents of cavities, and pneumonic areas, chiefly in the vicinity of cavities. In the main our results have agreed with those of other observers. Our postmortem cultures were made within twelve hours of death as a rule, and a few within four hours. The streptococcus was the organism most frequently found in cavities, and in the various organs stood second in frequency only to the colon bacillus. It was found in the spleen and bronchial glands in half of the cases in which cultures of any sort were obtained. It does not seem probable that its presence in the spleen and these glands can properly be attributed to postmortem or agonal invasion. In areas of bronchopneumonia the streptococcus and staphylococcus (aureus and albus) were most frequently found. The examination of microscopic sections of these areas showed changes which must have begun some time before death, and which surely modified the symptoms and course of the disease. The species found corresponded fairly well with those found in the cavities of the same patient.

In a few cases repeated examinations of washed sputum were made, with the purpose of comparing the symptoms of the patient during this period with the character and varieties of bacteria present. We were unable to trace any connection between them, but it remains my conviction that more extended studies along these lines will result in at least a measure of success.

A somewhat puzzling, but not inexplicable circumstance, is the lack of pathogenic power in the cultures of streptococcus isolated from sputum and cavities. The virulence of this organism is very variable and quickly lost in culture. Furthermore, lack of pathogenic power for certain laboratory animals does not prove that the organism when growing in the human body causes no injury. Pneumococci, when found, were almost invariably highly virulent. Cornet found the organisms of mixed infection frequently pathogenic. In spite of the constant occurrence of mixed infections and the evidence of their injurious action, many authorities believe that the tubercle bacillus alone is capable of producing the symptoms seen. There can be little doubt that the entire evolution of the tubercle, its softening, and final discharge with resulting cavity formation, can take place in the absence of secondary organisms. The tubercle bacillus alone can also produce the disturbances of temperature.

It appears certain that one of the benefits of treatment in sanatoria located in the country lies in the comparative freedom of such places from the frequent epidemics of colds, bronchitis, influenza, and pneumonia which visit thickly populated communities. The number of varieties of organisms to which a patient is exposed in rural districts is very much less than in cities, and secondary infections correspondingly less liable to complicate matters. Those in charge of sanatoria find it advisable to isolate patients suffering from acute infections such as the above-mentioned, and to exclude visitors who may introduce these affections into the institutions.

Some evidence of the important part played by secondary infections has been given by the results of treatment with antistreptococcic serum. The results have

*Read before Section Two of the 1908 International Congress on Tuberculosis, Washington, D. C.

not been uniformly good by any means, probably on account of the well-known shortcomings of these sera, and the fact that the strain of streptococcus causing the complication was different from that used in the production of the serum. In other words, the sera used were not specific.

Much more valuable evidence has recently been brought forward in the use of homologous vaccines, and the study of the opsonic index in relation to the several secondary organisms found in the sputum. Marked improvement has been reported by several authors following, and apparently in consequence of, the administration of bacterial vaccines made from the organisms of the patients' sputum. These results can be explained only on the ground that these bacteria were active invaders, acting injuriously on the host. Improvement was brought about by increasing the opsonins in the blood. As this action is specific we are amply justified in holding that these secondary bacteria took an active part in the evolution of the disease, and the causation of symptoms.

CONCLUSIONS.

While we have much to learn concerning the rôle played by mixed infections in pulmonary tuberculosis, the evidence seems to justify the conclusion that such infections modify the course of the disease injuriously, being the causative factors in some of the great accidents, or aiding in their production, and tending generally to shorten life. In many cases they appear to be the direct and immediate cause of death.

AIR INFECTION OF MINOR IMPORTANCE.*

CHARLES V. CHAPIN, M.D.
Superintendent of Health.
PROVIDENCE, R. I.

BASES FOR THEORY OF AIR CONVEYANCE OF DISEASE.

When it becomes necessary to question long-established beliefs, we are less likely to be disturbed if we first ascertain what were the original grounds for those beliefs. As long as scientific medicine has existed, infectious diseases have been thought to be air-borne. Whenever it was recognized that any disease was infectious, an effort would be made to explain how persons distant from the source of infection could acquire the disease. The most obvious explanation was that the *materies morbi* were wafted by the air. This served to explain fairly well the phenomena of epidemics and of localized outbreaks and the occurrence of single cases of infection. In one common disease the clinical evidence of the important part played by the air was very strong. Malaria has prevailed extensively throughout the civilized world since the dawn of history, and the evidence that the virus of this disease is air-borne is so clear that it amounts to a demonstration, so that it was but natural that what was proved for one infectious disease, and that disease the one with which men were most familiar, should be assumed to be true of all others. In a sense malaria is air-borne: its germs are carried in the bodies of mosquitoes; but it is the insects, rather than the germs, that are carried by the air. Unless the parasites of the other common contagious diseases are carried by similar feeble-winged insects, we can draw no argument as to their mode of transmission from what is known of malaria. It is perhaps here necessary to say that this paper does not deal with such diseases.

The location of the initial lesion in some diseases has helped the theory. The mouth is infected in mumps and diphtheria, the lungs in tuberculosis and pneumonia, and it is easy to believe that germs in the inspired air are their cause. At one time pathologists maintained that examination of the tissues yielded positive evidence that the lungs were usually the site of the primary lesion in pulmonary tuberculosis and that this indicated that the disease was air-borne. Many, however, dissent from this opinion. The subject is a difficult one, but it can hardly be said that the facts of pathology prove that tuberculosis is in most cases an air-borne disease.

I suppose, however, that the chief reason why the theory of aerial transmission has been so generally accepted is that it afforded the best, or perhaps the only, explanation of the facts of infection. When cases of infectious diseases develop at about the same time in a neighborhood, or one after another without any apparent connection, or when isolated cases continue to appear from time to time, scattered over a city, the question arises how are they caused. There is no apparent communication between them. The most natural explanation is that the infection is carried by the air. Another explanation is that infected articles have borne the disease from the sick to the well. These two possible modes of transmission, by the air and by fomites, were about the only ways we had of explaining the vagaries of the distribution of the contagious diseases. If we have another and better explanation we should discard the older theories, or give them a minor place.

It is only within a dozen years that we have begun to realize that pathogenic organisms are by no means confined to those who are sick. Bacteriology has shown us that mild unrecognized cases are much more common than had been supposed, and that persons infected, but showing no symptoms, that is, "carriers," are still more numerous. There are enough of these mild cases and carrier cases to maintain the contagious diseases by direct contact. The demonstration of this can not be undertaken here, but it must be admitted by all who study the problem. Such a source is proved for some cases. Why not assume it for most cases, rather than assume aerial transmission? If one does not recognize the existence of these numerous carriers he will take little interest in this paper, and will cling to what seems the necessary theory of aerial convection. If he does recognize the importance of carriers he will no longer consider the former theory necessary and ought not to hold to it unless actual evidence of its truth can be adduced. Let us see then what evidence there is in favor of the notion that diseases are usually air-borne, and in the first place let us inquire what is the probable mechanism of the transmission of disease germs through the air.

EVIDENCE OF TRANSMISSION.

To those who believed in the aerial transmission of disease, the announcement that bacteria are not readily detached from moist surfaces came as a great surprise. It was a serious blow to all our time-honored ideas to learn that the expired air is free from germs, for no notion was more firmly fixed than that the breath of the patient filled the room and the house with infection. Yet the demonstration was conclusive that bacteria are

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

not spontaneously given off from moist surfaces, but, on the contrary, are easily entangled on such surfaces, so that the microbes of the inspired air are made prisoners on the mucous membrane of the air passages, and the expired air is free from all infection.

Other modes, however, were soon suggested by which bacteria might get into the atmosphere. Not only are bacteria not detached from moist surfaces, but they are not detached even by powerful air currents from firm dry material, unless the latter is mechanically disturbed. This is particularly true of the secretions and excretions of the body, which when dried present a somewhat firm glazed surface. But it was soon suggested that this dried infective material, be it sputum, saliva or feces, might become pulverized, and that then the light particles, containing living bacteria, would be easily carried by air currents. The question of dust infection then became a vital one. The problem as to whether such dust can and does cause disease may be studied in various ways.

In the first place, it is important to know whether bacteria on drying retain their virulence. Evidence on this point is voluminous, but conflicting and difficult to analyze. Spores, of course, retain their virulence, but it is worthy of note that our most common spore-bearing pathogenic organism, namely, that of anthrax, appears not to be air-borne, that industrial anthrax is rarely of respiratory origin, but that the initial lesion is in a large proportion of cases on the exposed skin and is probably due to contact infection. Of the non-spore-forming bacteria many, such as the pneumococcus, the gonococcus, the meningococcus, and the influenza bacillus, have so little resisting power that dust infection appears to be impossible. Other germs, like those of typhoid fever, tuberculosis and diphtheria, may resist drying, and there is no theoretical reason why they might not at times be air-borne.

The next point for investigation is whether pathogenic bacteria can actually be found in the air. Although this subject is extremely important, the search is a difficult one, and not a great deal of reliable work has been done. There is little doubt that the pus organisms are the most ubiquitous of all disease germs, and they have been found in the air in many situations, including the streets, hospital wards and operating rooms. Virulent tubercle bacilli also have been found in the air, though, as might have been expected, many negative examinations have been reported.

Much more numerous are the experiments which have been made to discover disease germs in dust, particularly tubercle bacilli. The work of Cornet, Coates and others has amply demonstrated that in the vicinity of tuberculous patients, especially if careless, infected dust may be found.

The bacteriologic evidence is that no germs have been found in the air except those of suppuration and tuberculosis, and careful experimental investigation of the subject indicates that few disease germs are capable of being carried as dust and remaining virulent.

The doubt cast on the theory of dust infection led to further studies. Flügge showed that in coughing, loud talking and even in ordinary speech, minute droplets of saliva are given off which are infective. Animal experiment has, however, shown that they are not effective at a distance of more than two or three feet.

We ought now to ask what experimental evidence we have that either air-borne dust or droplets are actually infective under ordinary natural conditions. It must be confessed that the evidence is rather scanty. A number of crude experiments are on record in which large quantities of dried and pulverized material containing the germs of tuberculosis, plague, Malta fever, and anthrax have been forcibly blown into the nostrils of test animals with fatal results. Cornet confined forty-eight guinea-pigs in a compartment in which dust containing tubercle bacilli was vigorously stirred up, and nearly every one of the animals developed the disease. The conditions, however, were far from natural. Flügge had no difficulty in infecting guinea-pigs by keeping them in front of a patient distant from 20 to 45 cm. for a short time, and allowing the patient to cough at them. Even under ordinary conditions of speaking such infection takes place. The U. S. Department of Agriculture has investigated the mode of tuberculosis infection in animals. In one experiment two healthy cows were kept in stalls between tuberculous animals, and both became infected without actual contact; ninety-eight guinea-pigs were kept in cages in the stalls, and some under the mangers of tuberculous cattle, for about six months, and only one of the pigs (kept under the manger) became infected. In a later experiment, of thirty-five guinea-pigs exposed in cages on the walls of stalls where tuberculous cattle were confined, only two became infected after an average exposure of 135 days. Of forty-two guinea-pigs exposed under the mangers, so that some of the feed sifted into the cages, six were infected. In the last experiment the disease is more likely to have been caused by contact infection than by air infection, but in the other cases the disease may have been air-borne, but unless scrupulous care was used by the attendants during the six months, it was likely due to contact infection.

The British Plague Commission reports some interesting experiments with that disease. Susceptible guinea-pigs and monkeys were confined in cages placed in infected huts, and also near infected animals, but they did not in any instance acquire the disease so long as precautions were taken to exclude fleas. These experiments were well conducted and indicate that plague is not an air-borne disease in the ordinary meaning of the term.

Except for the above diseases very few experiments have been made on aerial transmission.

We must next inquire what clinical evidence we have that the air is a factor in the transmission of infectious disease. It was formerly believed that not only was the air of the sick-room infected, but the disease poison was carried out of the house and long distances in the open air. This view has been gradually abandoned for one disease after another, until at present smallpox alone is believed to spread in this manner, and many epidemiologists deny even this.

When influenza reappeared in 1889, extending over the entire globe in a few months, there were many who contended that this phenomenon could be explained only on the theory of its aerial transmission, and even maintained that it was thus borne across the Atlantic; but the researches of Parsons in England and Schmid in Switzerland showed conclusively how necessary personal intercourse was to the development of the disease.

It is for the aerial convection of smallpox, however, that we find the greatest weight of authority. Investigations made by Dr. Power for the local government board in England in 1881, concerning the Fulham Hos-

pital, convinced the authorities that smallpox hospitals are a serious menace to their neighborhood, and they advised that such hospitals should, if possible, be located a mile or more from inhabited houses. Many local health officers agree with these conclusions, but many do not. The subject is too intricate to discuss here, but the believers in aerial convection base the theory almost exclusively on the alleged fact that smallpox in a great number of instances prevails in excessive amount around the hospitals, and with a progressively decreasing intensity as distance from the hospital increases. Such facts, they say, can be explained only on the theory of aerial convection. That such a distribution of cases commonly occurs is denied by many, and when it does occur it has sometimes, as in recent outbreaks in England, been shown to be due to contact infection.

If smallpox virus is powerful enough to infect at the distance of a mile, it ought certainly to infect every susceptible person in the same room or within a hundred feet, and this is notoriously not the case. The belief that smallpox is air-borne to any distance is contrary to the facts, at least as observed in this country.

It has also been alleged that typhoid outbreaks are sometimes due to air-borne infection. But in all the recorded instances which I have examined there is not the slightest evidence that the disease originated in the manner alleged.

Assertions are made even now by some that other diseases are carried by the external air. In Paris the question has been raised of the possibility of scarlet fever spreading from the hospitals, but Tarnarier has shown by a statistical study that there is no evidence of it. In American cities also assertions are sometimes made that scarlet fever and diphtheria are carried by the air from hospital wards to adjoining wards or neighboring houses. In no instance in which such transfer has been alleged has transfer by carriers been excluded. Moreover, many contagious hospitals have been maintained for years with no increase in these diseases in the vicinity, as, for instance, at Boston and Providence. At the Kingston Avenue Hospital in Brooklyn various diseases, as smallpox, measles, scarlet fever and diphtheria, are treated in wards only a few feet apart, with no evidence of aerial transference. At North Brother Island the tuberculosis ward is only about twenty-five feet from the diphtheria ward, but Dr. Knopf tells me that his tuberculous patients do not contract diphtheria.

While the majority of the medical profession do not believe that diseases are carried by the outer air, they do believe that most patients with tuberculosis, smallpox, diphtheria, scarlet fever, measles and whooping cough contract the disease by breathing the germs.

It is commonly believed that the germs of disease readily pass from one room to another in a dwelling and a carbolized sheet before the door is often hung up by physicians and health officers to prevent the extension of the disease. But the facts are that even with entire disregard of the ordinary rules of cleanliness in the sick-room, the disease rarely extends beyond the apartments occupied by the patient. Careful records kept in Providence for many years show that, in both scarlet fever and diphtheria, the disease is confined to the tenement in which it first appears in about 93 per cent. of the houses, and in nearly all of the instances in which it does attack more than one family in the house, there is known to have been direct communication between the families. If there is no visiting between the families the disease never spreads. This demonstrates not only that scarlet fever and diphtheria are not air-borne, but also that, although members of the infected family may use hallways, stairs, cellars and water-closets in common with other tenants, the danger of infecting the latter may be safely ignored.

It very frequently happens that persons infected with scarlet fever, diphtheria or smallpox remain for days in schools, asylums, or lodging houses, and yet infect few or none. Such a phenomenon seems to be more easily explained if infection takes place chiefly by contact, rather than through the air, and certainly indicates that aerial infection is not so swift and sure as is usually supposed.

Visitors to wards occupied by scarlet fever and diphtheria patients rarely contract these diseases. Welsh and Schaumberg state that of 700 medical students who visited the scarlet-fever wards of the Philadelphia Hospital, not one contracted the disease, although fully one-half the number had never had it. In a personal letter Dr. Schaumberg states that about the same number visited the diphtheria wards with a like negative result. The stay in the wards was from twenty minutes to an hour and the visitors were not supposed to touch anything without washing the hands.

The best experiment on the mode of infection seems to have been made recently in some of the French hospitals, particularly the Pasteur Hospital in Paris. In this hospital each patient is cared for in a separate room opening into a common hall. Different diseases may be in adjoining rooms. The doors are, of course, frequently opened and are often left open. The same nurse may care for patients with several diseases. The nurses are trained to take the same care in going from one case to another that they would in going to a surgical operation. In fact, strict medical asepsis is the watchword of the institution. To treat smallpox in a room opening into a corridor connecting with the rooms of scarlet fever and diphtheria patients, would by most persons be considered the height of folly, but at this hospital during the two and one-half years after it was opened in 1900, there were received 2,000 persons, of whom 524 had smallpox, 443 diphtheria, 126 measles, 163 erysipelas, 92 scarlet fever and 166 non-diphtheritic sore throats. The only evidence of the transfer of infection was the development of four cases of smallpox and two of erysipelas.

At the childrens' hospital in Paris (*Hôpital des Enfants Malades*) instead of being in separate rooms, the beds are separated by partitions. The same asepsis is prescribed as at the Pasteur Hospital, but does not appear to be as carefully carried out. There are treated in these wards all kinds of contagious diseases, including typhoid fever and pneumonia. Of 5,017 cases there were only 7 cross-infections, 6 of measles and 1 of diphtheria. Dr. Moizard thinks that this experience proves that even measles is not air-borne. The cases of this disease which did arise were not in cubicles adjoining those occupied by measles patients.

Dr. Grancher, in another Paris hospital, had two wards in which there were no partitions, but only wire screens around the beds, simply as a reminder for the nurses. He also attempted medical asepsis, but as the period covered was from 1890 to 1900, the details were doubtless not so well understood or applied. Doubtless, too, the permanent partitions have a moral effect on the

minds of the attendants. Of 6,541 patients treated during this period 115 contracted measles, 7 scarlet fever and 1 diphtheria. This is a much larger rate of infection than that shown for the other hospitals, but not as great as in many hospitals with separate wards for each disease. Grancher insists that measles is probably not an air-borne disease. Adjacent patients do not necessarily infect one another. At various English hospitals similar methods have been tried with success. These various hospital experiences indicate that the danger of the aerial convection of disease is much less than is generally supposed.

The history of surgical practice is interesting in this connection. Lister at first believed the air to be the principal source of infection. Gradually surgeons came to consider the organisms of suppuration on their hands, instruments and dressings, and on the skin of the patient as the principal source of infection, and I think that I am not wrong in saying that at the present time surgeons have little fear of aerial infection. Ochsner says that it is a negligible factor. Yet the pus-forming organisms are probably more numerous in the air than any other pathogenic bacteria.

CONCLUSIONS.

After the foregoing survey of the subject we are, I think, justified in the following conclusions:

1. The theory of the aerial transmission of disease was developed as the most reasonable way of explaining the phenomena of infection.
2. Contact infection with carriers and missed cases affords a better explanation of the phenomena.
3. The best medical thought has been steadily restricting the supposed sphere of aerial transmission.
4. Only a few authorities now assert that disease is carried by the atmosphere outside of dwellings, and this assertion is made only with regard to smallpox.
5. Bacteriology teaches that former ideas in regard to the manner in which diseases may be air-borne are entirely erroneous; that most diseases are not likely to be dust-borne, and they are spray-borne only for two or three feet, a phenomenon which after all resembles contact infection more than it does aerial infection as ordinarily understood. Tuberculosis is more likely to be air-borne than is any other common disease.
6. Animal experimentation indicates that tuberculosis may be air-borne, and that plague and some other diseases are not.
7. Pathology has not determined, as is sometimes alleged, that even pulmonary consumption is an air-borne disease.
8. There is no good clinical evidence that the common diseases are air-borne.
9. There is considerable clinical evidence that scarlet fever, diphtheria, smallpox, measles, whooping cough, typhoid fever and plague are not easily transmissible through the air.

If these conclusions are correct, are we not justified in abandoning the theory of aerial transmission as a working hypothesis, and should we not devote ourselves to preventing every form of contact infection? To use the phrase of the French physicians, we should, in our treatment of contagious diseases, practice strict medical asepsis. This I have learned by experience we can never teach people to do so long as they continue to believe that air is the chief vehicle of infection. That there is little danger in neglecting the aerial factor is indicated by hospital experiences of Paris and other cities.

UNIFORMITY OF VITAL STATISTICS.*

J. N. HURTY, M.D.
INDIANAPOLIS.

A large percentage of the people who call at the statistical department of the Indiana State Board of Health ask: "Of what practical use are vital statistics?" This question proceeds as frequently from doctors as from the laity. It is from doctors also that we continually receive letters protesting against the inconvenience of making reports of the deaths and births they attend. Frequently, to tell such persons that the collection of accurate vital statistics and their intelligent analysis constitute one of the most important functions of governments is to talk into the air. The results are sometimes discouraging when the subject is continued and it is made plain how vital statistics give a valuable measure of the advance in medicine and of the results of the practical application of hygiene. Without vital statistics, practical hygiene is a good ship at sea lacking a compass, and it is true that it is far more important for a state to know who are dead, where they died, and what caused death, than to know the number of hogs, bushels of corn and acreage of oats. Still, these truths, obvious as they are, remain invisible to many.

MEDICAL PROFESSION RESPONSIBLE.

On the medical profession devolves the responsibility of giving to the world accurate mortality, morbidity and birth statistics. This is really an opportunity which conditions bring to the medical profession, for such records are of great importance to medical science; and where is the true disciple of medicine who will not gladly contribute to the science he has made his life study? Again, it is clear that a physician's duties to his patients and their families are not all performed until the records which are so important to them and which the physician only can make are duly returned. Birth and death records, therefore, are far from being solely for the benefit of the state. Indeed, their value to the state is not primary. To summarize them we may say: Birth, mortality and morbidity records are of very great importance to medical science, to the family and to the state. Medical colleges should provide a special course of instruction concerning the collecting, classifying, tabulating and analyzing of vital statistics. Medical students should be taught the importance of recorded life data: 1, to the individual; 2, to the profession of medicine; 3, to the general public; 4, to sociologic problems; 5, to public hygiene.

In connection with their duties in regard to reporting deaths, medical students should be especially and thoroughly instructed in precision in statement of causes of death, necessity for complete returns and the relation of sex, age, color, race, conjugal condition, parents, nativity and occupation. Examining medical boards should examine applicants to practice medicine in the general subject of vital statistics.

UNIFORM REGISTRATION METHODS.

It is plain that, unless the vital statistics of different states are compared with each other, not a little of their value will be lost. To this end, and also to the end that gain all along the line should be secured, uniform registration methods for vital statistics should exist. But,

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

how may they be secured? The United States Bureau of the Census three decades ago urged that the states should have registration laws furnishing correct and comparable vital statistics, yet, at this date, only twelve states have such laws. The bureau has issued and distributed ten or more circulars relating to registration, and one, entitled "Legislative Requirements for Registration of Vital Statistics," gives clearly the essential principles which should be incorporated in all laws to make them effective in the work.

The first and absolutely necessary requirement in a mortality registration law is a burial permit issued by a sworn registrar, the said permit to be based on a standard certificate of death, intelligently and as completely filled out as possible. And here lies the greatest difficulty, for in Indiana, after eight years of daily prodding from the office of the State Board of Health, at an expense for a special clerk and for untold postage stamps, the number of indefinite terms used has not decreased. There seems to be a decided reluctance on the part of some physicians to be accurate and definite in their statements of causes of death. He who invented such terms as marasmus, kidney complaint, liver trouble, nervous shock, etc., did not have in mind accuracy, definiteness and other needs of mortality statistics. And what about the returns from those practitioners, not few in number, who certify scarlet fever, diphtheria and cancer deaths as being caused by "malignant diseases"? What of those who call diphtheria "ulcerative tonsillitis," and who return for intestinal tuberculosis the term "chronic diarrhea"?

The difficulties to be overcome in securing the reporting of all deaths is not so great as that of banishing incorrect and indefinite terms. A registration law which does not require deaths to be recorded immediately after their occurrence with definite causes of death stated in acceptable terms and which does not deny legal burial until the same is done, is entirely worthless. The further the time and place of record are removed from the time and place of the occurrence, the greater is the probability of non-registration and the greater the possibility of error in giving the statistical and medical facts. Appreciating these truths, the Indiana law commands immediate report of death on an official certificate, and before legal burial can be made a burial permit based on said certificate must be issued. In this it is not different from other efficient registration laws, but in the penalty for burial without a permit it is very different. Besides a fine of from ten to one hundred dollars for illegal burial, which penalty it is impossible to have imposed in certain pathetic instances, the Indiana law commands the coroner under penalty for failure, and with a reward for compliance, to disinter the body, hold an inquest and make a return of his findings on regulation death certificates, and to further the using of definite terms of causes of death, the back of the certificate contains a list of three dozen terms which can not be accepted. Then the careless or ignorant physician has always at hand information which will guide him aright.

The first necessity of immediate report on official blanks and a burial permit being met, then follows the necessity of an immediate local recording and the transmission, at least monthly, of the original certificate or transcript to a central authority, where, under a trained statistician, classification, tabulation and analysis can be done. To secure this, the law should command it be done under penalty, and the central board given power to pass rules and regulations, the violation of which would result in the discharge of the offender with a fine.

A UNIFORM CERTIFICATE OF DEATH.

The adoption of the same form of death certificates, or at least essentially the same form, by all registration authorities is necessary. So likewise is the adoption of the same method of classification. Fortunately, both forms have been ably supplied, the certificate form by the United States Census Bureau and the classification system by the International Congress of Hygiene and Demography.

Experience has shown, however, that the certificates can be improved, and so the Indiana State Board of Health has made a few changes in the United States form. The United States certificate, under "personal and statistical particulars," calls for the birthplace of the deceased, but simply has the word "birthplace," followed by a blank; and, although it is plain that the birthplace of the deceased is wanted, still constant inquiries were received asking as to this point. The same situation appeared as to occupation. So the Indiana certificate now has "birthplace of deceased" and "occupation of deceased" printed on it. It also has printed on the back a list of the most common indefinite terms used in stating causes of deaths, thus presenting suggestions to those filling the blanks.

EFFICIENT LOCAL REGISTRARS NECESSARY.

A good law, even though constructed on the given principles, will not enforce itself; and, therefore, efficient local registrars are a necessity. These should exist in every city, town, county and township. In Indiana, registrars are to be found wherever a coffin can be purchased. They should be intelligent and thoroughly informed in regard to their duties, and impressed with the great importance and usefulness of vital statistics. They should know and feel that the seemingly trivial act of collecting, recording and transmitting of death certificates is a matter of importance to medical science and to the state, and possibly of great importance in the future to the family of the decedent. For the state to fail to pay registrars properly is to encourage inefficiency; and this is all too frequently done. It seems that the best basis of payment would be a sufficient fee for each certificate handled. Of course, the responsibility for obtaining and filing the original certificate of death with the registrar should be fixed in the law. But on whom? He who buries the body must be the holder of the burial permit, just as he who pays out money should hold the receipt. The undertaker is, therefore, the one who should be required to deliver the certificate of death, and said certificate should be readily supplied by the attending physician, if any, otherwise by the local health officer or coroner. In case there is no undertaker, and the family with the help of the neighbors conduct the burial, then the head of the family or the chief actor in the case must hold the burial permit; and he must bear the certificate to the registrar. With all of this system duly and legally provided, the people must be informed and registrars must be diligent and conscientious in the discharge of their duties and must have the cooperation of the medical fraternity and the people. The securing of this cooperation will, of course, depend on the statistical department; and that persistent, unceasing labor and enthusiasm and much tact

will be required to accomplish this end is very plainly apparent.

BIRTHS.

The securing of records of all births is obviously more difficult than the securing of records of all deaths, and in neither instance can absolute accuracy be secured. The Laporte Gunness horror reminds us that concealed deaths are continually occurring, only not in groups, and when not discovered are lost. So, also, births are continually occurring in remote places, which, on account of ignorance and stupidity, are not reported, and even in cities this occurs with the additional fact that many are purposely concealed. Therefore, we are concerned only with such records as can be secured by the exercise of diligence.

Births should be immediately reported. The courts would probably interpret "immediately," as meaning within twenty-four hours. It is unnecessary to give longer time. To do so in many instances brings inaccuracy, and in not a few, failure to report at all. The ten-day period allowed in the bill of the Committee on Uniform Vital Statistics should, in my judgment, be changed to one day.

The experience of the Indiana State Board of Health shows it to be desirable to have the postoffice address of the mother, and this item has been added to the blank. It is the mother to whom we must usually appeal for the name of the child. She has the deepest interest, and she will almost always answer a letter asking for the name. If the birth is in the country in Indiana, the postoffice address would not be given on the blank of the United States Census Bureau; only the township would be given, and there might be two, three or more postoffices in that township. We have also found it necessary to add county, township and village or city as well as postoffice address to the supplemental blank. These do not occur on the United States blank.

Another addition, which is made for purely sanitary and not statistical reasons has been made to the Indiana birth blank. It is: "Were precautions taken against ophthalmia neonatorum?" We believe that this question has produced good results, for letters have been received asking what precautions the State Board of Health recommends, and one county medical society has taken up the matter and appointed a member to write on the subject. The presence of such a question on a birth certificate could be properly criticized from the statistical point of view, but if it advances preventive medicine and does good it seems to be justified.

In writing to the mother for the given name we use the following form of letter, with which is enclosed the supplemental blank, all filled out, except the name, and also a stamped return envelope.

Dear Madam:—We have received in this office for legal record, the birth certificate of your baby. Please fill out the enclosed blank where child's name is called for and return to us in the stamped and addressed envelope, and please correct any errors, either in dates or spelling of the names.

This legal record of the birth and name of your child is of great importance to you, to your child, and to the state. Some day it may be required in court to prove your child's parentage, or to prove inheritance of property, or to prove right to insurance or pension, or to prove legitimacy. Every mother should demand that her child's birth be legally recorded as the law commands, and also demand that the physician or midwife carefully look after the matter, for their duties are not fulfilled and they should not be paid for their services until they make the report required by law. Women will do wisely to discuss with each other the importance to themselves and to their children of legal records of births and deaths.

If at any time the State Board of Health can help you, please write to us.

We are glad to be able to say that only occasionally do we fail to hear from this letter. We find also that the letter has the missionary effect intended, for we have heard of many instances in which country women have talked about the necessity of recording deaths and births, and several women's societies have formally discussed the subject. The sending of this letter also presents the opportunity of sending, without additional cost, a leaflet concerning the care of babies.

ABSTRACT OF DISCUSSION.

DR. CRESSY L. WILBUR, Washington, D. C.: Dr. Hurty, I think, referred to the twelve registration states. We are doing a little better than that. There are fifteen registration states at present, not counting the District of Columbia (city of Washington), which formerly was included in the list of registration states. There has been a break in the continuity of registration from the east to the west, but Ohio has bridged that gap, and under a law signed by Governor Harris on May 4, Ohio will undoubtedly soon become a registration state. I have good news also to report from the northwest. Wisconsin, Minnesota, North Dakota, Montana, Washington, Nebraska and Utah all have laws in operation requiring burial permits, and it only requires full enforcement of these laws to secure the addition of these states to the registration area. I am sorry to say that at the present time—and there are a great many people living in this great city of Chicago who would hardly credit the statement—Illinois is a non-registration state. Illinois, as a state, does not have an adequate system of vital statistics. I am glad that the state sanitary authorities and the city health departments are interested, wide-awake and willing to cooperate in this matter, and I believe that we shall have a good registration law at the next session of the legislature. At Washington we receive returns from all registration states and cities, and there is no city in the Union which sends better reports or where the causes of death are more carefully investigated than in Chicago. The work now being done in this city should be of great aid in securing the enactment of a law for the entire state.

DR. J. A. EGAN, Springfield, Ill.: Illinois, not being a registration state, does not have a registration of vital statistics, but has a system of mortuary statistics—not as complete as it might be, but still not bad. Illinois does not require the death to be reported except in certain cities where the reports are made to the proper health official. Throughout the state, outside of these cities, reports are made to the State Board of Health, and a fee of 25 cents is paid for every death reported. I believe that in Illinois we get reports of 90 per cent. of the deaths.

DR. W. H. SANDERS, Montgomery: In Alabama, while we have had laws providing for the registration of births and deaths for many years, for reasons that it is not necessary to enter into now, those laws have not been enforced in all parts of the state. At the last meeting of our legislature more rigid laws governing this matter were enacted than heretofore had existed. We are now making a vigorous effort to call out the vital and mortuary statistics for Alabama, and we hope that our efforts will bear fruit. In Alabama and the other southern states we labor under one difficulty which does not confront the states and people of the north, viz., our large negro population. In some counties in Alabama there are five, six, seven and eight times as many negroes as white people. You will understand the difficulties that surround the collection of vital and mortuary statistics where the population consists so largely of negroes. It is impracticable in a section of the country like that to provide a law that will absolutely require a burial certificate. The undertakers are not scattered all through the county. We are trying to overcome the difficulties, however,

and believe that we shall be able to do so. Of course, in those parts of the state in which the negroes are so largely in the majority the midwives do all or a great deal of the obstetric work. In getting up our recent form of death certificate we have added one item or heading to our form of certificate which I have never seen in any other form: "Did the deceased undergo a surgical operation, and if so, when and of what nature?" We have often received certificates of death in which peritonitis, septicemia, or shock would be assigned as the cause, when it was obvious that there must have been something back of these causes and when possibly the real condition back of them was an operation which had been performed only two or three days before.

DR. C. L. MINOR, Asheville, N. C.: I am satisfied that under present conditions, in the rural portions of the black belt of the south, the registration of vital statistics is impossible. The south is almost a purely agricultural region, where the farmers live scattered over a large area, often far from the nearest town, doctor or undertaker. Under these conditions, how can we hope for reliable vital statistics? Look at the conditions in Germany, where vital statistics are the most accurate and satisfactory in the world. Small villages are scattered everywhere, at short distances, and there is a paternal system of government which can force every physician and every citizen to obey its orders. While I do not wish to be a pessimist, it seems to me that in the south, despite the most faithful and earnest efforts of our doctors, we can not hope for satisfactory results in this direction until the country is more thickly settled. In North Carolina, where I live, there is satisfactory registration in the towns, but not in the country, and we can not expect an overworked and busy country practitioner, going night and day, and very often far from the court-house, to make full reports of his work—not to speak of those large areas where there are no doctors at all.

DR. GEORGE W. WEBSTER, Chicago: Difficulties in securing and enforcing legislation of this character are not confined to the negro population of the south or to the ignorant people. In Illinois, for example, the state board had introduced and passed, four years ago, a rather satisfactory vital statistics bill. This was in operation about two years, then Mr. Miller, the ex-speaker of the House of Representatives, asked for its repeal on the ground that it was too much trouble for his constituents to obtain legal permission to bury their dead. Illinois would have had no bill at all had it not been for the fact that we accepted the present law as a compromise, thinking that it would be better to hold on to that and use it as a lever in securing some such law as is now recommended by the American Medical Association. Until the House of Delegates and the medical profession rise up and help us in educating the people and the legislature to the fact that vital statistics are absolutely necessary as a foundation for public health work, we must be content with the present law.

DR. H. M. BRACKEN, Minneapolis: The question on the birth blank relative to prophylaxis against ophthalmia neonatorum is of great importance. A movement looking to the prevention of this disease was taken up in the Section on Ophthalmology two years ago.

DR. S. S. CROCKETT, Nashville, Tenn.: In furnishing results of mortuary and vital statistics, however much we appreciate the importance of it, we shall never accomplish anything either in the south or anywhere else until the people themselves appreciate the importance of it. They have to be taught the desirability, the importance and the value of it. In Tennessee we had an amusing defeat of a vital statistics bill four years ago. We had drafted a great improvement over our present law, and when it came to the question of undertakers' certificates for every burial it was charged that the undertakers were behind the scheme, and that they were the men that were pushing it; that it was really an undertaker's bill. It was shown that in about twenty counties in the state there was not an undertaker; that the people did their own undertaking, and we shall have to develop undertakers in Tennessee before we can accomplish results.

DR. J. H. WHITE, New Orleans: Would it be possible to obtain from the United States government the franking privilege for the purpose outlined by Dr. Hurty? While it may seem a small matter, it is a huge task to pay postage on all the work of the health office, and the franking privilege would be of inestimable value to the health officers of the United States. It would enable them to gather material from everywhere, and place the returns in the hands of every doctor in the United States, so that he would know what was going on in reference to vital statistics in Illinois, or in any other state of the union. I believe that vital statistics could be collected in the south to some extent by making laws and enforcing them as well as may be, but not tabulating all the statistics. We could take such areas as it is absolutely impossible to get those statistics from, and leave them out of consideration in the tabulation, just as the census bureau does in tabulating the cotton returns, or any other returns of the products of the southern states, saying that such districts have not yet reported. In this way we would get what was available. In certain sections of the south it is impossible to get vital statistics because the inhabitants are miles away from civilization. They have no midwives, and no doctors.

DR. H. B. HEMENWAY, Evanston, Ill.: On what basis does Dr. Wilbur select certain towns in non-registration states, for record in the vital statistics? For instance, Evanston has its own local law, efficiently enforced, which compels the registration of death before the body may be removed from the place in which the death occurs, and yet I find that Evanston is not mentioned in the tabulated statement. Physicians are accustomed to issue death certificates without seeing the body. There is no identification of the body, and once in a while it becomes a matter of legal importance to identify a certain body. Life insurance companies always call for a certificate of death, and really, the record is of little value in many cases simply because the physician has not seen and identified the body. The certificate ought to state that the physician was in attendance before death, and that he has seen the body.

DR. C. L. MINOR, Asheville, N. C.: What does the poor mountaineer do when, often far from any physician and more often from an undertaker, his dear wife dies? He makes his own rude coffin, places his dear dead in it, wrapped in a sheet, digs a grave with his own hands, and places her there to wait for the great hereafter. These deaths, reports of which never reach our registrars, are what interfere with the accuracy of vital statistics in the country, and makes them reliable only in cities, towns, villages or thickly settled districts. Look at the records of births. Doubtless as soon as the negro woman, as she is already doing in the cities, approximates to the ways and constitution of the white woman, she will need a doctor's presence, but the average corn-field negro woman has her baby without any assistance whatever. I know of the case of a negro girl who, coming back from church with a party, left them to go into the bushes, had her baby, picked it up and rejoined the crowd before they got home.

DR. CRESSY L. WILBUR, Washington, D. C.: In reply to the question as to the basis on which cities were admitted to the registration area, the comparison was made at the time of the last decennial census in 1900. The returns were collected from the registration authorities of the cities and an independent enumeration of deaths was also made by the census enumerators. The total number of deaths, from both sources, being established as a basis, those cities in which the registration amounted to 90 per cent. of this total were accepted as registration cities, and those falling below that standard were omitted. In a general way, however, the registration of deaths in Illinois, outside of Chicago, in those cities having permits, is not as good as that of the majority of cities in non-registration states, because in many instances when deaths have occurred in cities and when the bodies are taken out of the cities and not buried in the municipal cemeteries, permits are not issued. We do not consider the returns fully reliable. I do not wish to refer to the character of the work done by the State Board of Health in a critical way. I know that Dr. Egan has done very creditable work with a very imperfect tool, and I am sure that when he becomes better equipped he

will be surprised to find that he is getting an increased number of returns, and that he can place greater dependence on them as full and reliable. I do not think that they are so now.

DR. T. D. TUTTLE, Billings, Montana: We have a registration law in Montana, and we have Hungarians and Finns and everything else, and occasionally an American. We are getting fair results there, but I believe that any of you can kill a registration law as soon as it is passed by your legislature if you do not handle it with a little judgment. Last winter, when the snow was about fifteen feet deep in our gulches a child died. It would have taken the father twenty days to reach town. If I had filed a complaint against that man for not having a burial permit I believe that the thing would have been made so public that our law would have been killed the next winter. You can not get a death certificate sometimes in twenty days. The farmer whose wife dies, and who has no money to bury her, makes a box, and buries her himself. If he comes in as soon as it is practicable to get to town that is satisfactory. If the death certificate is filed honestly, and as quickly as it can be done, I do not believe you can successfully prosecute that man. I doubt if there is a doctor in Montana who does not promptly file his birth certificates. The majority give the name. Dr. Hurty suggests that the name should be given in one day, but we could not get the name in that time in any event. I think that ten days is better. We have some people who are worse than the negro. Men who can not read, and who do not go to the post-office once in ten days are common with us. Letters do some good in our state, but the foreigners do not read them. Yet we are getting pretty good returns by pounding at them, and not prosecuting them.

DR. J. N. HURTY, Indianapolis: These letters to mothers are doing good work. We invite them to write to us. That puts a considerable burden on the state board, and I have felt it, as the secretary, but they bring us directly in contact with the people, and they understand it. Numerous mothers' societies and teachers' conventions have taken up the subject, and so, as this education is going on, they are finding out that it is of the utmost importance to them to have these records made. We had applications for almost six hundred transcripts of births and deaths last year, and we made a missionary of every one of those applicants in the cause of correct vital statistics. I think that this has done much good in Indiana, and we do not despair of getting accurate death records from away out in this country, where people bury their own dead. You know the feeling where there is a death in the family. In one of my excursions I found parents burying their child, dead of diphtheria, in a home-constructed coffin. They were poverty-stricken people, but they were ready to listen to us, and they desired greatly that the death of that child should be recorded. They only needed to know about it. I believe that our southern brethren can secure good statistics from the negroes by introducing into their laws the clause in the Indiana law, which provides that in the event of burial without permit the coroner shall disinter the body and hold an inquest and secure the data. What a commotion disinterment makes in a community! It was only last week that we had a disinterment, although our law has been in force many years. The physician said that he was too busy to make out a certificate. He didn't "believe in health laws nohow," for he said so. He said to the undertaker that he would stand between him and the law. It cost that physician $80. He found plenty of time to attend the trial. He was not too busy to attend the inquest, and the educational value to the community was very great. That physician will be very much less busy the next time he has a case of this kind. At first, the people were angry. Many said that it was an outrage, but when they found that a law-breaking physician caused all that trouble they took a different view.

An Error Sometimes Made in Examination of Sputum for Tubercle Bacilli.—W. H. Buhlig, Chicago (*Quar. Bull. Northwestern Univ. Med. Sch.*), points out that in the attempt to hurry a preparation of sputum for microscopic examination, the smear is often heated before it is quite dry, producing in this way artefacts that are sometimes with difficulty differentiated from tubercle bacillus.

A NEW METHOD FOR THE QUANTITATIVE ESTIMATION OF ALBUMIN IN URINE.*

EDWARD H. GOODMAN, M.D.
Physician to the Dispensary of the Phipps Institute for the Study, Treatment and Prevention of Tuberculosis; Dispensary Physician to the Presbyterian Hospital; Assistant Instructor in Medicine, University of Pennsylvania.

AND

SUZANNE STERN.
PHILADELPHIA.

In the book on urinary analysis by Neubauer and Vogel sixteen closely printed pages are devoted to the question of the quantitative determination of albumin in urine. Of the many methods described but two are in general use, the gravimetric and the Esbach methods. The former is complicated and tedious but accurate, while the latter method, reported by Esbach in 1874, aims to present a relatively easy and accurate procedure. Many factors must be taken into consideration in using this method: The specific gravity must be between 1006 and 1008; there must be less than four grams of albumin in a liter of urine; the specimen must be acid, and, as pointed out by Schulz and later by Christensen (quoted by Neubauer and Vogel), the temperature plays an important rôle. Neubauer and Vogel,[1] after a careful review of the literature pertaining to the Esbach method, state that even for a moderately satisfactory estimation of the quantity of albumin it is absolutely unreliable, and that an estimation of the albumin by the quantity thrown down on boiling is almost as exact. When, however, all precautions are taken as to temperature, specific gravity, etc., one can determine whether the amount of albumin has increased or decreased.

The Esbach method has for a generation been firmly established in every laboratory, and where tradition and common usage have rendered a custom almost a law, it should be with a great deal of trepidation that one attempts the task of annihilation and substitution. This is, however, the object of our paper, and we believe we are now in a position to speak with authority and definiteness concerning the method advanced by us in a preliminary report published in THE JOURNAL, July 4, 1908.

For some time past work has been carried on in the laboratory in an endeavor to devise some simple, rapid and exact method for estimating the quantity of albumin in a given specimen of urine. A brief report of our failures may prevent others from attempting work along similar lines. The first thought which naturally arose was to measure the ring of albumin obtained by Heller's test, after standing a certain length of time, and after many wearying attempts this had to be abandoned as impracticable.

We then tried the various color tests, the Biuret, the Millon, the xanthoprotein and the Adamkiewicz, endeavoring to establish a color scale with which a specimen of urine might be compared as is done with the Tallquist scale for hemoglobin estimations. Of these tests the Adamkiewicz alone promised success, but the gradations of color were so slight that this method was ultimately discarded. The other tests were worthless as quantitative methods.

*Final Report from the Private Laboratory of Dr. John H. Musser. Read in the Section on Medicine, Medical Society of the State of Pennsylvania, Cambridge Springs, Sept. 14-17, 1908.

1. Neubauer and Vogel: Analyse des Harns, ed. 3, 1898, p. 865.

About this time there appeared a paper by Tsuchiya[2] offering a modification of the Esbach solution in the form of a solution of phosphotungstic acid in 96 per cent. alcohol and hydrochloric acid, which, he states, gives results more nearly approaching those obtained by weighing than does the original Esbach solution. He gives many tables which substantiate this claim and summarizes his conclusions as follows:

1. With normal urine there is no precipitate, as is sometimes the case with the Esbach reagent.

2. The precipitate from albuminous urine settles more regularly than with the Esbach solution. Foaming or floating of the precipitate is never seen.

3. The method is more exact with moderate room temperature than is the Esbach method.

4. Small amounts of urine are precipitated as well as are the larger amounts. This is especially important for febrile urines, as Esbach himself said his method was not suitable in these instances.

It occurred to us that use might be made of this solution of Tsuchiya as a basis for a titration method, and it remained but to determine the amount of albumin which would first cause a cloudiness.

We dissolved 1 gm. of crystallized egg albumin in 100 c.c. of distilled water (Solution A). Of this we took 1 c.c. and diluted with 9 c.c. of distilled water (Solution B) so that in the 10 c.c. there was 0.01 gm. of albumin, in 1 c.c. 0.001 gm., and in 0.1 c.c. 0.0001 gm. We put in a test-tube 5 c.c. of the following solution:

Phosphotungstic acid	1.5	gm.
Hydrochloric acid (cone)	5	c.c.
Alcohol, 95 per cent. q. s. ad	100	c.c.

We found that if the solution of egg albumin (Solution B) were added with a pipette graduated in 0.1 c.c. it took 0.1 c.c. to cause a cloudy precipitate with the phosphotungstic acid; in other words, 0.1 c.c. of the albumin solution contained 0.0001 gm. albumin.

To prove the delicacy of this test we took 1 c.c. of Solution B and diluted it with 9 c.c. of distilled water so that in the 10 c.c. there was 0.001 gm. albumin, in 1 c.c. 0.0001, and in 0.1 c.c. 0.00001 gm., and we found that it required exactly 1 c.c. or 0.0001 gm. albumin to cause a precipitate.

Having established the fact that the acid solution precipitated exactly 0.0001 gm. albumin, we applied our method to urine.

First the Heller test is made, and if much albumin is present the urine is diluted 1 in 10; if not, undiluted urine is used. Five c.c. of the phosphotungstic acid solution are put in a test-tube, and then with a 2 c.c. pipette graduated in tenths of a cubic centimeter, the filtered urine is added to this, shaken after the addition of each tenth and urine added until a whitish cloud appears. The number of tenths of a cubic centimeter is read off and expressed in terms of 100 c.c.

For example, if it takes 1 c.c. of diluted urine (1 in 10) there is 0.0001 gm. albumin in 0.1 c.c. of undiluted urine, or in 100 c.c. there is 0.1 gm. albumin, or 1 gm. in 1000 c.c. On the other hand, if 0.7 c.c. diluted urine (1 in 10) is used, then 0.07 c.c. undiluted urine equals 0.0001 gm. albumin, 7 c.c. diluted urine equals 0.01 gm. albumin, and 700 c.c. equals 1 gm. albumin. The following equation gives the percentages:

700 : 1.0 :: 100 : X or 0.142 per cent. or 1.42 gm. per thousand.

Since publishing the first report of this method we have made but one slight modification, and that is the use of water acidulated with acetic acid instead of ordinary distilled water for diluting. This we found especially useful with alkaline urine, which must always be made acid before examining. It must be remembered that if undiluted urine throws down a precipitate after the addition of 0.1 c.c. it must be diluted with nine parts of water and the test repeated, as there may be so much albumin that less than 0.1 c.c. of undiluted urine is required.

TABLE SHOWING RESULT OF QUANTITATIVE TESTS FOR ALBUMIN IN URINE.*

No.	Esbach—Old.	Esbach—New.	Titration.	Weighing.
1.	Did not settle.	0.025	0.06	0.06
2.	0.075	0.15	0.16	0.11
3.	Did not settle.	0.05	0.05	0.05
4.	0.22	0.27	0.33	0.34
5.	0.07	0.15	0.12	0.10
6.	0.02	0.05	0.1	0.17
7.	0.02	0.02	0.1	0.06
8.	Did not settle.	Did not settle.	0.33	0.35
9.	No ppt.	No ppt.	0.02	0.01
10.	No ppt.	No ppt.	0.01	0.01
11.	0.05	0.05	0.14	0.12
12.	0.1	0.15	0.33	0.30
13.	Not enough ppt.	0.016	0.08	0.11
14.	Did not settle.	0.012	0.06	0.05
15.	0.15	0.2	0.5	0.6
16.	Pleural fluid. 2.0	Pleural fluid. 4.0	Pleural fluid. 2.5	Pleural fluid. 3.6
17.	0.025	0.05	0.16	0.14
18.	0.012	0.025	0.05	0.03
19.	Below 0.025	0.025	0.1	0.06
20.	0.012	0.025	0.025	0.02
21.	0.07	0.125	0.1	0.15
22.	0.025	0.012	0.01	0.03
23.	0.05	0.075	0.1	0.1
24.	Did not settle.	0.05	0.09	0.05
25.	Did not settle.	0.012	0.01	0.02
26.	Did not settle.	0.025	0.02	0.04
27.	0.2	0.4	0.5	0.58
28.	0.2	0.3	0.33	0.38
29.	Did not settle.	0.1	0.1	0.12
30.	0.25	0.4	0.33	0.30

*In the columns "Esbach old" and "Esbach new" are the results obtained by using the Esbach albuminometer with the original picric acid solution and the phosphotungstic acid solution of Tsuchiya, respectively. The results by all four methods are expressed in per cent.

Our method has in all instances been controlled by the gravimetric estimation, made according to Englander's recommendation;[3] and in addition we have made determinations with the Esbach albuminometer, using the original picric acid solution and the phosphotungstic acid solution advocated by Tsuchiya. A study of the accompanying table shows three things: first, that the Esbach albuminometer used with the Esbach reagent is absolutely unreliable; second, that the phosphotungstic acid solution of Tsuchiya is an improvement and approaches more nearly the results obtained by weighing; third, that the determination of albumin by means of our titration method is startlingly exact, in but few instances varying from the gravimetric method, and then in only a slight degree.

We have had opportunity to study but one specimen of pleural fluid (No. 16). In this instance the result was not very satisfactory and more work must be done in this direction before a final answer is given as to the usefulness of the method in such cases.

In conclusion, our method for determining the amount of albumin by titration is to be recommended on account of its simplicity, accuracy and the rapidity with which one obtains results. It is applicable to urines containing but faint traces of albumin, such as those in cases of febrile albuminuria, which are not suitable for the Esbach method. The method is also accurate for large quantities of albumin. So far we have been unable to find any sources of error in our method such as must be taken into consideration with

2. Tsuchiya: Zentralbl. f. inn. Med., 1908, p. 105.

3. Engländer: Zentralbl. f. inn. Med., 1908, p. 265.

the Esbach albuminometer. We propose to study this question still further, making it the basis of a later communication.

NOTE.—Since we wrote this article, a paper has appeared in THE JOURNAL, Oct. 31, 1908, p. 1511, by Dr. H. R. Harrower, describing a "new instrument for the rapid and accurate determination of albumin in the urine." This instrument is for use with the reagent mentioned by us in THE JOURNAL, July 4, 1908, in connection with our new method of albumin determination, and has a bulb for 5 c.c. of the reagent, above which is a 3 c.c. tube graduated in tenths of a c.c. Harrower makes use of our determination of the amount of albumin precipitated by 5 c.c. of the phosphotungstic acid solution, and reads off in his tube the amount of urine which must be added to produce a cloud. We see in Harrower's instrument a complication of our method. We put 5 c.c. of the reagent in a test tube and add the urine from a pipette graduated in tenths of a c.c. reading off the amount of urine producing a cloud. Harrower's method is unnecessary, as essentially his instrument is nothing but a test tube and a graduated pipette in one. Apart from the expense of the instrument, the difficulty in keeping it clean is not insignificant. As our method requires but a test tube, a 5 c.c. pipette for measuring the reagent, and a 2 c.c. pipette graduated in tenths of a c.c., we think Dr. Harrower's instrument is unnecessary, as no time is saved and many disadvantages are connected with it which are absent in our procedure.

2035 Chestnut Street.

Clinical Notes

TREATMENT OF COMPOUND COMMINUTED FRACTURE OF BOTH TIBIA AND FIBULA.

J. W. INGRAM, M.D.
MARSHFIELD, ORE.

The case in question was that of a young man, aged 27, who, while employed as a railroad brakeman, was injured Nov. 6, 1906, by a collision of the locomotive, on which he was riding, with a carload of logs.

I saw the patient Dec. 4, 1906, twenty-eight days after the injury was received. During this time the patient had been treated by the company physician, with occasional consultations with the family physician. He had been told that an amputation of the leg would be the only procedure. This was asked for by his physicians on several different occasions, but was refused by both the patient's father and the patient himself.

After a careful examination I found that a compound comminuted fracture of both bones existed at about the junction of the lower with the middle third of the leg. The communication on the external side was from two and one-half to three and one-half inches in length, through which splintered portions of the fibula were removed, in all; I should judge, about one inch. The two fractured ends were lying at an angle, with the apex outward, and so dense had become the adhesions that to replace them seemed impossible, and I deemed it better surgery to trim off the ragged ends and not attempt replacing them. On the internal surface a communication varying from two to three inches in length existed; through this opening one-third of the circumference of the tibia was removed for a distance of four inches, extending into the medullary canal. About midway of this splintered portion the tibia was fractured completely across. A free flow of pus was coming from both wounds.

After removing the splintered portions of bone, which was done on Dec. 8, 1906, at the Mercy Hospital, North Bend, Ore., and making the wounds as nearly sterile as possible, the next problem that presented itself was the nature of the dressing to be used. I had carefully considered the plaster-of-Paris dressing with a glass window, with many other methods and appliances, but found none of them suitable for this particular case. In the first place, it would need multiple daily dressings for some time, daily irrigations, and at the same time the minimum amount of disturbance and as near absolute rest as possible if union was to be hoped for.

I, therefore, devised the following method, illustrated by the accompanying diagram. I took the ordinary perforated metallic posterior splint, put a few layers of cotton, adjusted it to the leg so that it would fit snugly from the knee to the heel inclusive. At the site of the wounds on either side I removed a semicircular piece of the splint in order to allow free access to the wounds. This was made firm by a few bands of one-inch adhesive plaster encircling the leg. This dressing held the bones in perfect apposition just as long as an equal pressure could be maintained on the leg for the entire length. This was accomplished by the use of an extra large pair of suspenders of the pulley type, with as little elasticity as possible (illustration).

I first applied a piece of adhesive plaster, two inches in width, one inch above the wound, allowing it to encircle the leg completely, then passed it through a buckle and around the leg again. Into this buckle were hooked the ends, A A, shown in the diagram. I next passed a

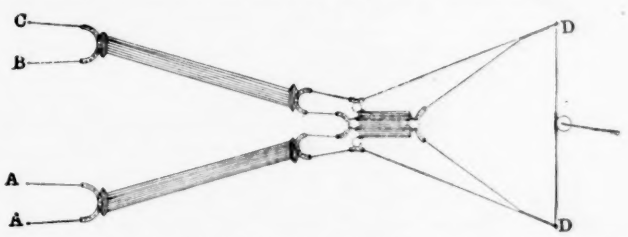


Diagram of suspension apparatus used in compound comminuted fracture of tibia and fibula.

similar piece immediately below the wounds, treating it in the same manner, into which was buckled the end marked B in the diagram. Still another piece was passed over the heel, including the heel by cutting a slit in the center of the adhesive plaster; into this piece was buckled the end C, as shown in the diagram. By the use of the suspension used, as shown by the drawing, an equal pressure was maintained on all portions of the leg at all times and at all angles. The two posterior straps, D D, were separated by a steel rod five inches in length, hooked at either end into the straps, with an eyelet in the center into which a rope was tied and in turn run through a pulley fastened into the ceiling and then to the head of the bed.

This suspension was used during all irrigations and dressings, allowing the leg to be raised with the least amount of disturbance to the parts possible. The leg was thus raised when the bed-pan was used and when the bed linen was changed. At no time did the patient complain of any uneasiness or pain while the leg was being raised or lowered. This treatment was continued for about sixty days. During the daytime the leg was allowed to rest on a pillow and at night raised just sufficient to be clear of the pillow beneath.

To avoid soiling the dressing in the splint and to keep the water from finding its way beneath the cotton was a problem to be considered, and one which, in fact, had

to be solved if I hoped to be able to keep the one splint on for any length of time. The difficulty was overcome in the following manner: After thoroughly adjusting the splint I applied a medium thickness of cotton over the entire surface of the splint, allowing it to come up on the leg about half an inch for the entire length of the splint; then over this I applied a free coating of collodion, thus sealing it up most thoroughly. After about sixty days this dressing was removed. A perfect union had taken place; the leg was found to be in a perfectly healthy condition, with no signs of heating or absorption of moisture from the constant irrigations. The patient was dismissed from the hospital, with both wounds healed, with the exception of a slight opening, which healed in a few days without difficulty. This was just seventy days after I first saw him.

The question has since presented itself to my mind whether a more permanent suspension, that is, one without any elasticity to it, would be of better service than the one which I used in this case. In case the patient should jump in his sleep there was no suddenness to the stoppage of the leg should he raise it and again drop it, as there would be in an ordinary leather suspension.

It is easy to see by the accompanying drawing that when the patient would raise the upper portion of his leg the various straps would loosen and adjust themselves in such a manner as to keep up a constant and even pressure on all parts of the leg at all times. To this method of treatment and mobilization of the parts I credit the good results in giving the patient a comparatively good leg with the least noticeable limp.

RADICAL TREATMENT OF HEMORRHOIDS BY EXCISION.

JOHN A. HAWKINS, M.D.
Professor of Diseases of the Rectum in the University of Pittsburg; Rectal Surgeon to St. Francis Hospital.
PITTSBURG, PA.

In *American Medicine,* June, 1901, I described an operation for the radical cure of internal and external hemorrhoids by excision, and a clamp used in this operation. The results of more than 500 operations by the excision method in private and hospital cases, after more than 500 operations by the clamp and cautery, have satisfied me that the first-named method is the only surgical treatment for hemorrhoids. Excision by the method I advocate in no way resembles Whitehead's operation, which I fervently condemn.

Since the publication of the article above referred to I have modified the operation somewhat, and at the present time in many cases use no special clamp, but pick up each tumor with ordinary hemostats and excise and suture the pedicle.

In the article just mentioned I described a method by which I clamped up the tumor in its entirety close to its base, shaved off the tumor close to the thin-bladed narrow clamp and then passed and tied a deep suture above the end of the clamp and passed the continuous suture under the clamp through the pedicle from one side to the other, then over the clamp to a point about one-fourth inch below the entrance of the preceding puncture, and so on until the entire pedicle was sutured. I always left the suture loops very loose so as to allow the clamp, when loosened, to be withdrawn, after which the suture was drawn tight, loop after loop, until the cut edges of the pedicle were approximated, when the end of the suture was tied below the lower end of the pedicle.

With the operation as above briefly described the results were good, as the tumor was pulled into the jaws of the clamp just desired, especially where the parts are uneven and much distorted.

Of late in using the clamp I have been using a No. 2 chromatized catgut interrupted suture for the mucous membrane (internal hemorrhoids) and a fine black silk for the skin (external hemorrhoids) suture with even better results than with the continuous catgut suture.

The operation in detail is as follows: The patient is prepared in the usual manner, the bowels are emptied by a cathartic and an enema given three hours before time of operation. The anal region is shaved and cleaned thoroughly. After complete general anesthesia the sphincters are divulsed with the fingers and the tumors are located and picked up with hemostats. The lowermost tumors are removed first to avoid any blood from above obscuring the view during the operation. The hemorrhoid is drawn into the clamp with thumb and forceps in its entire length, including the internal and external portions, if both are present; then the mass is shaved off close to the tightly closed clamp and the sutures are introduced. I am in the habit of passing a suture or ligature deeply through the tissues immediately above the end of the clamp, this ligature passing under the artery leading into the tumor, and I leave the ends of this ligature long so as to use it for a tractor if for any reason the clamp should slip or it be necessary to draw out the pedicle. The sutures are now passed beneath the clamp at intervals of three-sixteenths or one-fourth of an inch and the ends left long enough to tie. After all are inserted the clamp is removed and the sutures are tied, the pedicle being steadied by the traction suture and the canal being held open by my narrow steel retractors. The sutures having been tied and cut short, the next tumor is taken up and treated in the same manner, after which the pedicles are again examined, the traction sutures cut short, and a narrow strip of gauze inserted into the anal canal, its end protruding. This strip of gauze is left in for only twenty-four hours, then it is soaked with hydrogen dioxid, which softens its adhesions with the cut surfaces, after which the bowels may be moved by a dose of licorice powder or castor oil. When the patient expresses a desire for an evacuation of the bowels the nurse injects two to four ounces of sweet oil into the bowel and after the evacuation only the outer parts are washed. I have never seen infection follow this operation. A gauze compress is applied, over this a compress of sterile oakum, and all held in place by a triangle bandage.

The bowels are moved in twenty-four to forty-eight hours. Opiates are rarely given and the patient gets out of bed to urinate. The patient is kept on liquid diet until the bowels move, then light diet is allowed. In four to six days (or earlier if he feels able) the patient is allowed out of bed with full diet, the bowels if constipated being moved every other day as described above.

It is extremely rare to find the wound not completely healed within ten days.

An ointment of extract of hamamelis 8 gm. (6 scruples), phenol 1.25 gm. (19 grains), and calomel 1.25 gm., in zinc oxid ointment 20 gm. (5 drams),

twice daily through a pile pipe, and also after the bowels move, hastens the cure, with comfort for the patient.

NOTE:—The original operation with clamp and continuous suture has been described by others on several occasions within the past seven years, but the date of the original article, June, 1901, precludes the claim of priority by others.

J. A. H.

800 Keenan Building.

ISCHEMIC CONTRACTURE WITH SECONDARY ULNAR NEURITIS, THE RESULT OF BRACHIAL THROMBOSIS.

G. M. ASTLEY, M.D.
PHILADELPHIA.

In view of the fact that numerous papers have recently been written on the subject of ischemic muscular contractures, I thought it of interest to report the following case, because in its course the sequence of the various steps that occur in typical cases of Volkmann's paralysis is presented, without the complicating factor of pressure from bandages, which has been thought by some to be a factor in producing the deformity from contracture, after some cases of fracture near the elbow joint.

For the privilege of reporting this case I am indebted to Dr. Thomas R. Neilson of the Episcopal Hospital of Philadelphia; and, for the notes made at the Orthopedic Hospital, to Dr. Francis W. Sinkler.

The notes here presented are those made at the time in the hospital.

Patient.—A salesman by occupation, aged 42, was brought to the hospital at 7:30 a. m., June 10, 1905, on account of loss of use of the right arm and severe pain. His family history was negative.

Personal History.—The patient denied having had any venereal affection of any kind. He had not been a user of tobacco or stimulants to excess. There was no history of infectious disease save frequent attacks of grip. Seven years ago he began having nasal trouble, which persisted and became much worse. Severe head pain and insomnia later developed. The patient almost completely lost his sight and sense of smell and became a mouth-breather. He became very despondent and had intervals of condition bordering on mania. His condition about eight months ago was diagnosed as sphenoidal sinusitis. Treatment was rapidly followed by improvement. About a year or a year and a half before admission to the hospital the patient was told that he had mitral regurgitation with cardiac hypertrophy.

Present Condition.—On the day of admission the patient said that he arose feeling perfectly well; that he did some slight work about the house and wrote three letters before the present trouble appeared. (He was right-handed.) About 6:30 a. m. he began having severe tingling in the finger-ends of the right hand. The sensation rapidly became one of great pain, and extended upward, involving the hand, wrist, and ultimately the whole forearm. He became alarmed at the condition and came to the hospital, arriving about an hour after the onset of the trouble. On his arrival the right hand and forearm were pale and cold; absolutely no swelling was present, and sensation was entirely absent. No pain was complained of when any part of the forearm was pricked quite sharply with a pin. No radial pulse was palpable; no pulse at elbow, none in arm. High up in the axilla a faint pulsation could be felt. The patient could not move his fingers. On account of the severity of the pain morphin was given. Three-quarters of a grain, given during a space of about five hours, had little effect. The arm was wrapped in raw cotton, hot-water bags kept about it and was elevated. Nitroglycerin and veratrum were given internally.

6 p. m.: A very faint radial pulse could be felt, and the area of anesthesia had lessened now including only the ulnar side of the hand and four fingers.

10 p. m.: The patient's condition was about the same; he still complained of severe pain. The fingers and hand had become quite rigid. There was slight flexion at the wrist.

June 11: The patient was delirious on the preceding night and out of bed several times. He did not know where he was. This forenoon he saw a patient in a neighboring bed, suddenly realized where he was and apparently remained rational after then. His hand and forearm were somewhat swollen. The radial pulse was not palpable; the hand was warm; the veins filled slowly from below when emptied. The fingers and hand were rigid; the wrist and fingers somewhat flexed and the sensation in the fingers was not very acute.

June 12: The temperature was up to 102. The previous night the patient was again delirious, not as badly as on the preceding night. Below the elbow the forearm was much swollen. The skin was red, tense and shining. The local temperature was much above the surrounding. The forearm was quite tender to the touch. The first metacarpal interspace was swollen and tender. The local condition was not as severe as above. In both instances inflammation appeared to be in the deeper tissues. There was not a superficial cellulitis There was no apparent wound for infection. In the afternoon the patient's condition was not improved. Five incisions were made in the forearm over the swollen area and a quantity of serum liberated. The patient was again delirious in the evening.

June 13: The swelling was considerably reduced and the tenderness less marked. The hand was about the same. The radial pulse was re-established.

June 15: The swelling was reduced and temperature down. Sensation returned everywhere. The fingers were still quite rigid. There was no more pain.

June 20: The wounds were healing. Rigidity was present.

June 30: The wounds were almost entirely healed. The patient had been having massage for about a week. The tendency to contraction was quite marked.

July 4: The patient was referred to the dispensary. The patient was seen at irregular intervals during the next two months. An atrophy and claw hand developing, he was referred to the Orthopedic Hospital. The following notes were kindly furnished by Dr. Sinkler:

NOTES FROM ORTHOPEDIC HOSPITAL.

September 8: The skin over the dorsum of the hand was glossy. The thenar and hypothenar muscles and the Interossei were wasted. The fourth and fifth fingers could not be extended within 40 degrees of straight, but could be fully flexed. The fingers could not be separated or abducted. There was anesthesia of the outer aspect of the fourth finger and all of the fifth. Some lessening of sensation of the other fingers from tip to distal phalangeal articulation, and anesthesia of the ulnar side of the hand. Massage and electricity were prescribed to be administered three times a week.

September 15. The patient felt pain in the fifth finger when stuck, but felt no sensation to touch; that is, he had no analgesia, but anesthesia.

September 22: The patient moved his fingers a little better.

October 13: The dynamometer showed right hand 10; left, 65. The patient was better; wrote better. Sensation was still impaired in the fourth and fifth fingers at the hand.

Diagnosis.—Ulnar neuritis. In a note Dr. Sinkler says that possibly division had occurred through incision over the course of the nerve.

These notes were made about two months after the last of my own.

The case then shows a complete ischemia caused by a thrombosis or an embolism, probably the former, I believe. The first evidence of contracture was rigidity, which was sufficient to attract attention at 10 p. m., approximately fifteen and one-half hours after the beginning of the trouble, though it may have been present

earlier. This appeared in spite of the fact that there had been some circulation for four hours, at least a slight radial pulse having been detected at 6 p. m. At this time there was also a slight restoration of sensation.

On June 15, 1905, five days after the injury and three days after the incisions were made, the notes say that sensation had everywhere returned. This, I think, shows positively that the conclusions by the physicians at the Orthopedic Hospital, that the nerve had been severed at the time the incisions were made, to be erroneous. Nor do I believe that there could have been any involvement of the nerve in the cicatrix, for the incision was in the upper third of the arm and did not involve muscular tissue.

At the time of the patient's discharge "the tendency to contracture was quite marked." The hand was flexed at the wrist, the fingers semi-flexed, and not in the typical *main-a-griffe* shape.

I saw the patient but seldom during the interval between discharge and admission to the Orthopedic Hospital and do not know when the ulnar neuritis developed.

The points of interest in this case are, then:

1. A brachial thrombosis or embolism which was not followed by gangrene.

2. An ischemic contracture, as evidenced by rigidity of the hand and flexion at the wrist appearing not later than fifteen and one-half hours after the blocking of the circulation.

3. The re-establishment of the circulation and sensation (nerve conductivity); the sensations are recorded as everywhere present five days after the injury and three days after the incisions.

4. The onset of an ulnar neuritis at a subsequent period, due presumably to a pressure neuritis from the contracture of the degenerated muscle.

5. The probability of some involvement of the median nerve, as shown by the note from the Orthopedic Hospital, "some lessening of sensation of other fingers from the tip to the distal phalanges."

6. The partial recovery at any rate from the ischemic contracture, for when the patient presented himself at the Orthopedic Hospital he could extend the index and middle fingers as well as flex them.

I regret that it has been impossible to find the patient in order to report on his present condition.

5211 Girard Ave.

Polydipsia in School Children.—G. Paul Boncour, in *Progrès Médical*, Aug. 22, 1908, calls attention to a little noticed factor which he thinks accounts for certain difficulties in school children attributed to other factors. Certain children show a marked inaptitude for work and feebleness of attention, learn their lessons poorly, but seem more apathetic than unruly. According to the parents, such children suffer from headaches, sleep poorly, have irregular appetites, but are inclined to drink large quantities of water. These symptoms appear after the first heat of summer and can not be traced to any organic disease like diabetes, etc. Boncour attributes the nervous symptoms to a bad habit, originating in the desire for water during the first hot weather. The stomach is overloaded and dilated and fermentation and autointoxication result, which in children with a nervous predisposition reveals itself in the symptoms complained of. The desire for water is compared, by him, to a tic. The desire for drink is felt and expressed without reflection. It is simply a bad habit based on an original nervous and psychic debility already existing. The facts demonstrate, he thinks, the necessity of a medico-pedagogic study of school children presenting abnormal symptoms that are liable to be taken as the result of overstraining.

INFLAMMATION OF MECKEL'S DIVERTICULUM SIMULATING APPENDICITIS.

D. A. EWING, M.D.
SEATTLE.

The presence of Meckel's diverticulum and acute inflammation of that rare appendage is of sufficient interest to merit reporting.

This case is especially interesting because it occurred in a man who had previously had two attacks of appendicitis and whose present illness was thought to be due to an inflamed appendix.

Patient.—A rather heavily built man, aged 37. As a boy he had frequent attacks of pain in lower abdomen; had an acute attack of appendicitis five years ago and another one two years ago. For several weeks prior to the present attack he had had an uncomfortable feeling in lower part of abdomen but no acute attacks of pain.

Present Illness.—The patient was taken suddenly with severe pain in the lower part of the abdomen about noon, Sept. 27, 1908. An ice-bag was at once applied, affording only moderate relief. I saw the patient at 4 p. m., when he was in very severe pain and was vomiting bile-stained fluid. The pain was low down on the left side and there was tenderness on deep pressure over both sides of lower abdomen and considerable muscular rigidity, the same on both sides. On account of the thickness of abdominal walls no particular point of tenderness could be found. A soapsuds enema was given and bowels moved, with considerable relief of the pain. Temperature was 98.5; leucocytes were 9,200. At 10 p. m. pain was less; temperature 100.6; pulse 92. Next morning pain was about the same; temperature 99.6; leucocytes 12,000; tenderness and rigidity continued over both sides lower abdomen.

Operation.—Made at 2 p. m. Incision over appendix. The appendix was firmly bound down by adhesions, and when I endeavored to get it to the surface a portion of the lower ileum came into view, showing a diverticulum about the size of a small walnut. Its attachment, as is usually the case, was opposite the mesentery. Its lumen communicated with the bowel by an opening about the size of a dime. It was acutely inflamed and contained no concretions. Its walls were thin, and while we were examining it the diverticulum inflated to twice its natural size. It was easily ingavinated into the bowel and a double row of linen sutures placed. The appendix showed only a mild degree of inflammation and was bound by adhesions. It was removed. The appearance of the appendix showed that it had been the seat of previous inflammation, but the present condition seemed hardly to account for the symptoms that the patient had. The cause of the trouble was probably the distention of the diverticulum and a consequent localized peritonitis; the walls being thin, the diverticulum could easily have been inflated to the size of a baseball.

Postoperative History.—The patient made a good recovery.

615 Alaska Building.

Therapeutics

INFANTILE PARALYSIS.

Acute anterior poliomyelitis, though by no means a frequent disease, occurs more frequently unrecognized than any other serious disease of young childhood. The difficulty of its recognition is that a mild attack may leave such slight symptoms that at first the localized muscle debility is not discovered. The future welfare of the muscles affected depends so much on the early recognition of the presence of the disease and its proper treatment that too great care can not be exercised in testing the condition of the four extremities of a child who has had a sudden unexplained febrile attack. Epi-

demics of this disease occur, but it appears sporadically probably in all parts of the United States. The age of its occurrence is most frequently from 1 to 3 years and it is rare after 5 years of age. It is doubtless a germ disease, which seems to develop most frequently in the summer months, and strikes without premonition as rapidly as does fulminating cerebrospinal meningitis.

While most children attacked by the disease have high temperature, vomiting, headaches, and muscle aches, and are acutely ill, others may not be known to have been attacked until it is found that one or more extremities are paralyzed. Convulsions may occur, and the fever symptoms may last from twenty-four to seventy-two hours. There is then rapid improvement in all the muscles except those that are permanently involved. The legs are more likely to be involved than the arms, and a leg more frequently than an arm. If this paralyzed leg is not properly treated the muscles will atrophy, muscle and nerve degeneration will take place, and contractures of the muscles will occur.

Dr. David T. Bowden, Paterson, N. J. (*Journal of the Medical Society of New Jersey,* November, 1908), describes a series of cases of this disease which he saw during the epidemic of 1907, and from his experience advises the following line of treatment:

If the child is seen during the acute or fever stage he would give a calomel purge, encourage sweating by hot packs, hot drinks and hot blankets, and if the fever were high would administer an antipyretic. He speaks of using leeches, but does not say where he would apply them. After the fever stage he would keep the little patient as quiet as possible, would wrap up the extremities that have lost their proper circulation in flannel and cotton, and as soon as the tenderness of the muscles had subsided would use gentle massage and muscle kneading, together with electricity. As soon as any contractures in muscles or tendons were noted he would use passive counteracting movements and such apparatus as would prevent deformities.

The form of electricity to use depends, of course, on the ability of the muscles to react. If they react to the faradic current that would be the one to use. If they were so debilitated as not to react to the faradic current, then the continuous current with regular interruptions should be used. Electricity and massage should be kept up continuously for a long period until there seems no further improvement in the muscles. Even in neglected cases it is astonishing how much can sometimes be done by proper massage, passive motion and electricity. If any deformity is starting or is present, an orthopedic surgeon should be consulted and the best possible apparatus applied, while the electricity and massage are kept up.

Bowden urges that no operation should be done in the way of tendon cutting until it has been thoroughly demonstrated that apparatus and physical measures are not successful in diminishing the deformity.

GOUT.

Dr. Oliver T. Osborne, New Haven, Conn. (*Monthly Cyclopedia and Medical Bulletin,* August, 1908), discusses the etiology and treatment of this disease. He says that gout seems to be a disturbance of the metabolism, and "may be defined as a non-infectious, aseptic disease due to a disturbance of the transformation of the protein food molecule, more especially the purin molecule, to the excretion end-product." Hence there is no one cause of gout. This definition "does not diminish the importance of predisposing causes of gout, such as heredity, age, habits, alcohol, overeating of rich foods, prolonged mental depression or worry, and such infections as leave lesions of the organs engaged in nitrogenous metabolism." Acute attacks of gout may be precipitated by eating more or less proteins containing purin bases (nucleoproteids). This does not mean that uric acid is a cause of gout, but that foods rich in nucleins, and such combinations of food and alcohol as will produce large quantities of uric acid, will certainly make a gouty condition worse.

It is not necessary for the diagnosis of gout or for a patient to be "gouty" "that he should have gouty joints, chalky nodes, gouty kidneys, concretions, or even shooting joint pains. An increased arterial tension, increased force of the heart beat, a little extra amount of urine, a slightly increased frequency of micturition, repeated gastrointestinal upsets, skin irritations, nerve pains, frequent headaches, especially occipital," all simple disturbances in themselves, when taken together mean that a gouty condition is present. Any condition that much disturbs the normal metabolism of the nitrogenous food from ingestion to excretion may cause gout, and if this disturbance is continually in evidence or intermittently repeated, confirmed gout may be the result.

"To treat gout properly we should:

"1. Carefully study the functioning of each organ.

"2. Know the kinds and amounts of foods ingested and how well they are excreted, and especially in what form the nitrogen appears in the urine; how much urea, how much uric acid.

"3. Arrange the food and liquids ingested to meet the defects discovered in the functioning of the organs of metabolism and excretion.

"4. Treat or modify all complications present.

"In other words, there is no one way to treat or manage chronic gout." Each patient must be individualized as to the food and drink he should take.

"That deposits of urates around the joints at times disappear may be an observed fact, but there is no known treatment, medicinal, electric, hydrotherapeutic or other that will cause the dissolution of such deposits." All good hygiene, such as mental and physical rest, clean, dry air when the patient can obtain it, and such hydrotherapeutic measures as tend to keep the skin healthy will aid in preventing gouty symptoms.

If there is an exacerbation of gout or an acute attack there is no treatment "more efficient than a calomel purge, saline laxatives, and salicylic acid or some form of colchicum." An acutely inflamed gouty joint needs "rest, moist sedative fomentations, morphin sufficient to stop the pain, a dose or two of a coal-tar product," if deemed advisable, and colchicum or salicylic acid, whichever is found to act better in the individual patient.

Osborne has found that 0.10 to 0.20 gram (2 to 3 grains) of thyroid gland substance, given once a day, for a long period, will many times prevent the recurrence of acute gouty attacks.

Psoriasis in Children.—In children, psoriasis presents itself in localized patchy lesions with silvery white scales, although in cases in which there is much associated seborrhea the lesions are covered by yellowish and fatty crusts instead of by the dry scales of the ordinary type. On scraping with the nail or an instrument the scales fall in a shower-like manner. —W. B. Brown, in the *American Journal of Obstetrics.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 Dearborn Avenue . . . Chicago, Ill.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[For other information see second page following reading matter]

SATURDAY, DECEMBER 12, 1908.

THE ANTI-INFECTIOUS POWER OF LEUCOCYTIC EXTRACTS.

Of the great importance of the leucocytes in infections there is no question. They constitute an essential element in those reactions to infection in which phagocytosis takes place. The evidence of actual intraphagocytic destruction of many bacteria is convincing. This is especially true with respect to those bacteria which do not undergo lysis in the serum, namely, pneumococci, streptococci, paratyphoid bacilli and others. Several investigators have been able to extract bactericidal substances from leucocytes, so-called endolysins, which appear to act directly on the bacteria without the adjuvant or activating influence of complement. There is difference of opinion as to the ability of the leucocytes to produce free antibodies as the term antibody is understood ordinarily, and it can not be stated that it has been shown definitely that they produce complement, although Metchnikoff and his followers seem to harbor no doubt but that they can. From time to time it has been suggested that the leucocytes may contain or produce substances that neutralize toxic microbic products, but that such is the case has not been demonstrated clearly.

The most recent work on the anti-infectious powers of leucocytes is that of Hiss and Zinsser,[1] who in a series of papers give the results obtained by them from experiments on the curative effects of watery extracts of leucocytes in infections. Their immediate object was to determine whether or not extracts of leucocytes have any curative effect on established infections. In most of the experiments rabbits were used and rabbit leucocytes. The leucocytes were obtained by intrapleural inoculations of aleuronat which give rise to an abundant and richly cellular exudate. The exudate was withdrawn at the end of twenty-four hours, centrifugated, the serum removed and sterile distilled water added to the cells in amounts about equal to the fluid poured off. The cells were then thoroughly distributed throughout this water and the mixture was allowed to stand for a few hours at 37.5 C. and then was kept in the ice-box until used. Before injecting this fluid the mixtures were thoroughly shaken so that the cell residues were also used. The extracts were then tried by injection into animals, mostly rabbits suffering from the effects of intravenous injections of staphylococci, streptococci, pneumococci, typhoid bacilli and meningococci. In all these infections the extracts of leucocytes seem to have had considerable beneficial action so that many animals survived inoculations even when treatment had been delayed as long as twenty-four hours after infection. In many cases the injection of the extract was followed by a marked fall in the temperature and a rapid return to normal.

Extract of rabbit leucocytes was also used in cases of epidemic meningitis and lobar pneumonia. Twenty-two patients with meningitis were treated, and of these fourteen recovered (63.6 per cent.) and eight died (36.4 per cent.). The study of the course of the disease in individual cases gave the impression that the extract often produced immediate changes for the better in the condition of the patient, especially in the symptoms of nervous origin such as delirium, stupor, hyperasthenia. The quantity of extract administered ranged from 5 to 20 c.c. On account of the promptness of the effect Hiss and Zinsser are inclined to attribute the action to one of neutralization of poisons. In many cases there was marked reduction in the temperature, and in some cases the spinal fluid often became much less turbid after the first injection; this, however, may have been the result of the repeated withdrawal of fluid by lumbar puncture.

Seven patients with lobar pneumonia were treated, a number naturally too small to be considered statistically. The uniformity with which the temperature would fall after a single injection of the extract was noticeable, and, taking it all in all, Hiss and Zinsser gained the impression that the extracts are not unlikely to prove of therapeutic value.

It is clearly evident, as the investigators themselves point out, that the validity of the observations and the soundness of the inferences drawn from the experiments in the human infections can be determined only by much further investigation. It may be said, however, that in infections in rabbits the leucocytic extracts certainly seem to have had a more or less well-marked curative effect. It is, therefore, possible that if it were feasible to use extracts of homologous leucocytes in human infections the results might be better. Naturally the question arises as to the nature of the substances in the extracts to which these owe whatever anti-infectious powers they may possess. Special experiments are reported the results of which indicate that the extracts do not promote phagocytosis. Whether or not they are bactericidal in the test-tube does not appear to have been determined. Some years ago we heard a good deal about the value of nuclein or nucleinic acid in infections, and more recently such preparations have been used to produce a protective preoperative peritoneal leucocytosis and also to produce leucocytosis for experimental purposes. Whether extracts of leucocytes pre-

1. Jour. Med. Research, 1908, ix, 323.

pared as Hiss and Zinsser prepared theirs contain nucleinic derivatives in so large quantities that the work here reported simply represents a new departure in nuclein therapy remains to be seen. At all events, further work on the anti-infectious properties of leucocytic derivatives is indicated, and Hiss and Zinsser may be congratulated on having reopened an inviting field for experimental study.

THE FOOD VALUE OF NUTS.

In 1906 Prof. M. E. Jaffa, of the University of California, who for a number of years has made a study of the food value of nuts and nut products, published an article[1] dealing with this subject. He has recently revised and extended this article, which is now published as Farmers' Bulletin 332 and constitutes an interesting and useful summary of available data on the flavor, composition and digestibility of the substances in question. As a result of his investigation he finds that nuts represent a concentrated form of food, to even a greater degree than cheese, and when rationally indulged in they are well assimilated and may enter into the formation of a well-balanced diet. They contain valuable amounts of protein and fat, both of which are characteristic constituents of the more common varieties of nuts, of which the walnut and cocoanut may be considered as types. Carbohydrates are the preponderant constituents of nuts like the chestnut.

In most instances it is economically wiser to use nuts as part of the regular diet rather than as a condiment or a supplement to an otherwise hearty meal. Nuts should not be depended on as the main food supply by vegetarians and others who use them in place of meat, but they should be supplemented with more bulky foods with a low content of protein and fat.

Nuts are to be classed among the staple foods and not simply as food accessories, and at usual prices they are economic sources of protein and energy. Peanuts supply these factors cheaply, even as compared with such staple foods as bread and beans. From the various nut foods on the market little is to be gained from the standpoint of food value or economy in their use in place of the ordinary nuts and home-made nut products, especially by healthy persons willing to masticate their food thoroughly and to use nuts in reasonable combinations. Unless some addition has been made, the nutritive value of such special preparations can not be greater than that of the nuts that form their basis. Furthermore, nut butter and similar foods provide a means for pleasant variation in the diet, and they are relished by many who would not care for the unprepared nuts. Though less subject to contamination than many other foods, nuts should be handled and stored under appropriate conditions, and they should especially be protected from dampness and the invasion of insects.

1. Yearbook of the U. S. Department of Agriculture.

ARMY IMMUNIZATION AGAINST TYPHOID.

A board of medical officers, recently appointed for the purpose, has met in Washington, D. C., this week to investigate the question of the advisability of immunizing the regular army, and in case of war the volunteer army, against typhoid fever.[1] The board is headed by the Surgeon-General of the Army and includes, besides Captain Russell, the bacteriologist of the Army Medical School, such eminent civilian physicians and members of the Medical Reserve Corps as Victor C. Vaughan, Ann Arbor, Mich.; William T. Councilman, Boston; John H. Musser, Philadelphia; Alexander Lambert and Simon Flexner, New York; and William S. Thayer, Baltimore.

The appointment of this board marks an era in the history of the Medical Department of the Army, showing as it does the intention of its authorities to make use of the best medical talent of the country to assist them in solving the important problems which confront military sanitarians, both in peace and war. It was for this purpose that the inactive list of the Medical Reserve Corps, embracing the names of some of the most eminent medical men in the country, was recently constituted, this being the first time they have been ordered to active duty in the service of the United States. The subject which the board considered is of far-reaching importance; the experience of all modern wars has shown that typhoid fever is perhaps the greatest danger which threatens the efficiency of troops in time of war. Great progress has been made by the Army Medical Department in the handling of this disease in time of peace, but it is believed that the conditions in war time are such that more radical measures must be adopted to protect the troops.

The Surgeon-General of the Army has had the question of vaccination against typhoid under consideration for some time, and last spring Captain Russell, the pathologist and bacteriologist of the Army Medical School, was sent to Europe to study the matter, especially in Great Britain and Germany, which countries have had the largest experience with this method of procuring immunity. Captain Russell has recently returned and made a favorable report, and the appointment of this board is the outcome of his recommendation. The general medical public will be interested in the results of the deliberations.

THE PASSING OF THE PRECEPTOR.

With the advance of medical education, with the constantly increasing requirements for admission to the medical school, and with the lengthening and elaboration of the course of study necessitated by the enlargement of the field of medical knowledge, there has almost disappeared from view an erstwhile important fac-

1. See department of General News and Comments in this issue for a statement of the action of the board.

tor in medical education—the preceptor. Formerly, before going to college, the student spent a year or more studying with his preceptor, going about with him, seeing his patients, and learning not only how to diagnose and treat disease, but, above all, how to conduct himself in his relation to his patients. His vacations were spent in the same manner, and thus from the beginning he was taught to meet his patients on a plane of personal relationship rather than to regard them merely as scientific problems. The graduate of to-day is often wofully lacking in the personal side of the physician's art, and it may take years of sad experience to teach him what his father unconsciously absorbed while learning the sutures of the skull. Interneship in a hospital can only partially replace this lost opportunity, for, while the young physician observes there the attitude of his chiefs toward the patients, the circumstances are quite different from those of general practice, as he must learn when he first "hangs out his shingle" and undertakes to meet the patient in his own home.

The opportunity which came to the student of seeing patients with his preceptor before entering the medical school and observing the problems which must be met and solved gave him a sense of proportion which comes with difficulty to the student who is thrown without preparation into the perplexities of college life. The former was better able to grasp the importance of the subjects presented to him at college and their relation to the work which lay before him. It has been said that "a lofty scorn for detail is the natural attitude of the immature," and while the present tendency to insist on a preliminary training in the exact sciences is a healthy antidote for this attitude, the actual demonstration by the preceptor of the pre-eminent value of exact knowledge in treating the sick showed the student as nothing else could that generalizations can be based with safety only on a foundation of fact—that knowledge must come before wisdom. The encouragement and example of the wise preceptor taught the lesson that the medical school should be but the beginning of a lifetime of study — study of books, of men, and of things. The comprehension of the meaning of the medical school, the broader view of the opportunities which lay before him gained by the student who studied with the preceptor, particularly if he were fortunate in the choice of his preceptor, led inevitably to a greater interest in the work and to a more intelligent grasp of the subject.

The proper relation of the physician to his professional brethren, the time-honored principles of professional etiquette, and the physician's duty to the community at large were inculcated in the mind of the beginner in a manner which unfortunately has no parallel in modern medical education. Osler says of the "true student" that he may be recognized by three signs —"an absorbing desire to know the truth, an unswerving steadfastness in its pursuit, and an open, honest heart, free from suspicion, guile and jealousy." The passing of the preceptor has removed a powerful influence in the encouragement of such an ideal.

CAUSE OF EROTIC ABERRATIONS IN THE AGED.

The suggestion of Dr. James F. Percy,[1] that the erotic aberrations sometimes observed with approaching senility in men who have previously lived irreproachable lives may be due to some abnormality in the involution of the sexual organs, is worthy of some consideration. Certainly the idea of inducing a moral reform in these patients by surgical means is as rational as the propositions that have been made and extensively advertised in the lay press of reforming juvenile criminals by operations on the brain or even by the simple removal of adenoids. We know very little about the brain centers controlling immoral impulses or how they can be affected by the relief of respiratory obstructions, but we do know that the influence of the normal sexual organs on the psychic functions generally is a real one, and it is not a long step farther to suppose that their abnormalities and disorders may also have effects which sometimes may be relieved by their correction. The cases reported by Percy can hardly be classed as senile dementia except in a very limited sense; there could not have existed any such general organic degeneration and mental decay as we usually understand by the term, but it is not impossible or even improbable that there was a certain impairment of the higher inhibitions without necessarily any general impairment of intellection. In such a case the removal of a peripheral source of irritation, especially a source having so powerful an influence on the emotional life of the individual, might be followed by the best results. Percy seems to have appreciated the difference between these cases and senile dementia when he suggests the possibility of sexual neurasthenics and sexual perverts having "as an explanation of their mental aberration a pelvic rather than a brain pathology."

Medical News

CONNECTICUT.

Personal.—Dr. Stanley R. Benedict, assistant in physiological chemistry at Yale University, has been appointed instructor at Syracuse University.——Dr. Irving L. F. Nettleton, Bridgeport, who has been seriously ill with diphtheria, is convalescent.——Dr. William W. Brackett, health officer of New Britain, has resigned.

Work at State Laboratory.—At the quarterly meeting of the State Board of Health, Prof. H. W. Conn, director of the state bacteriological laboratory, reported on the work being done in that institution. With the appropriation of $7,500 he has established and equipped the laboratory, has examined 1,087 specimens for tuberculosis, 880 for diphtheria, and 528 for typhoid, and has made 974 tests of milk, in addition to other examinations.

Medical Staff Appointed.—The following medical staff has been appointed for the New Britain General Hospital: Attending physicians and surgeons—Drs. John E. Martin, Edward L. Whittemore, Robert M. Clark, William W. Brackett, Elmer

1. Illinois Med. Jour., November, 1908.

L. Styles, Carl J. Hart, Harry A. Elcock, Ernst T. Froman, and Henry T. Bray, New Britain; William W. Christian, Berlin; E. Parker Sanborn, Bristol; Arthur R. Couch and G. Perry Eldredge, Hartford; eye and ear, Dr. Joseph H. Potts, New Britain; and pathologist and bacteriologist, Dr. Catherine H. Travis, New Britain. Consulting staff—Drs. Arthur S. Brackett and Charles R. Upson, Bristol; Dr. Charles M. Kent, Forestville; Drs. J. Norris Bull and Charles W. Moody, Plainville; Drs. George P. Cooley and Kenneth E. Kellogg, New Britain; Dr. Robert E. Ensign, Berlin; Roger M. Griswold, Kensington; Drs. Oliver C. Smith and Edward B. Hooker, Hartford; and Drs. Harry L. Fifield and William R. Miller, Southington.

ILLINOIS.

Personal.—Dr. Stephen V. Balderston has been appointed health commissioner of Evanston, vice Dr. William R. Parkes, resigned.——Patients of Dr. John B. Hench, Hinsdale, on Thanksgiving Day, which was also the twenty-fifth anniversary of Dr. and Mrs. Hench's wedding, showed their appreciation by presenting them with a chest of silver.——Dr. and Mrs. Frank A. Phillips, Chicago, are spending the winter in Arizona.——Dr. Arthur F. Beifeld and Dr. and Mrs. Milton K. Eisenstaedt, Chicago, have gone to Europe.——Dr. Otto T. Freer, Chicago, has returned from Europe, where he demonstrated his septum operation in clinics at London, Edinburgh, Berlin, Vienna, and other cities.

Cost of State Wards.—In a statement prepared by William C. Graves, secretary of the State Board of Charities, the average per capital cost in the seventeen charitable institutions of the state for the quarter just ended was $43.19. The figures for the individual institutions were as follows: Hospitals for the Insane: Southern Hospital, Kankakee, $29.23; Central Hospital, Jacksonville, $33.03; Southern Hospital, Anna, $33.30; Northern Hospital, Elgin, $64.55, and General Hospital, Watertown, $38.61, and Criminal Asylum, Menard, $42.15. Institution for Feebleminded, Lincoln, $37.11; School for Deaf, Jacksonville, $40.19; Girls' School, Geneva, $44.83; Boys' School, St. Charles, $54.96; School for Blind, Jacksonville, $68.42; Orphans' Home, Normal, $71.07; Soldiers' Home, Quincy, $32.74; Widows' Home, Wilmington, $67.14, and Industrial Home for Blind, $77.60.

Chicago.

Tuberculosis Hospital.—The construction work on the new million dollar tuberculosis hospital for Cook County will begin in a few days. The building permit has already been procured.

Surgeons Give Operating Room.—The surgeons of the staff of the Columbus Hospital have made a substantial donation to the institution by contracting to equip an operating room at a cost of more than $5,000.

New Contagious Hospital Opened.—The new City Hospital for the Treatment of Contagious Diseases opened November 28, with four patients suffering from diphtheria. Dr. Margaret M. Jones has been appointed physician in charge. The capacity of the hospital is about 200. Only cases of diphtheria and measles will be received in the institution.

November Mortality.—The deaths during November were 2,425, 144 more than for the preceding month; and 206 more than for the corresponding month of 1907, the respective annual death rates being 14, 12.41 and 12.81 per 1,000. Chief among death causes for the month were tuberculosis, with 303 deaths; pneumonia, with 275; heart diseases, with 225; and nephritis, with 200.

Contagious Diseases.—During the week ended December 5, 778 cases of contagious diseases were reported to the Department of Health, distributed as follows: Diphtheria, 192; scarlet fever, 183; measles, 102; chickenpox and tuberculosis, each, 93; typhoid fever, 52; pneumonia, 28, and whooping cough, 9. There was a decrease in all contagious diseases, excepting typhoid fever, which increased 8 during the week.

Fined for Violation of Ordinance.—Drs. Bernard DeKoven and Alexander A. Whamond are said to have each been fined $10 and costs, November 24, for failing to report cases of epidemic diseases to the commissioner of health. For a similar offense, Dr. Peter T. Burns is said to have been assessed costs of $7.75. Martin and Minnie Rudd were fined costs for permitting a child infected with contagious disease to break quarantine.

Hospital Pavilion Opened.—The private pavilion of the Presbyterian Hospital, completed at a cost of $390,000, was formally dedicated November 29. Albert M. Day, president of the hospital, delivered the dedicatory address, and an address was also made by Dr. Frank Billings. The new wing contains 58 private rooms and will accommodate 75 patients. A feature of the building is a sun parlor, the roof and one-half of which is enclosed in glass, so that patients may enjoy the sun in any kind of weather.

Deaths of the Week.—The deaths from all causes during the week ended December 5 were 520, the same number as for the preceding week and 26 fewer than for the corresponding week of last year. This is equivalent to an annual death rate of 12.52 per 1,000. Pneumonia, for the first time this winter, takes the place of highest mortality, with 87 deaths, followed by heart disease, with 57; tuberculosis, with 49; nephritis, with 41; acute intestinal diseases, with 38; violence (including suicide), with 29; cancer, with 23; diphtheria and nervous diseases, each with 20; typhoid fever, with 6; scarlet fever, with 9; and influenza and measles, each 2 deaths.

MARYLAND.

New Hospital.—Through the efforts of Dr. Howard Bratton, Elkton, president of the Board of Health of Cecil county, a hospital has been equipped and opened at Elkton, with accommodation for 26 patients, at an expense of $25,000.

Illegal Practitioner Found Guilty.—George M. Fisher, indicted by the grand jury for engaging in the practice of medicine without being registered, is said to have been found guilty by a jury at Hagerstown, November 24. Notice of appeal was immediately filed by his counsel.

Antituberculosis Association.—An antituberculosis association was organized for Montgomery county at Rockville, November 24, at which H. Wirt Steele, secretary of the state association, delivered an address on "How to Stamp Out Tuberculosis." Joseph E. Janney was elected president and S. F. Prettyman, secretary of the association.

Gift for Sanatoria.—Mrs. George H. Beckwith, Catonsville, has offered two tracts of land, valued at $100,000, one at Saranac Lake, N. Y., and the other at Aiken, S. C., to the United States Government for the erection of sanatoria for the poor suffering from tuberculosis. Mrs. Beckwith is endeavoring to obtain an appropriation from Congress for the erection of buildings on the tract of land at Aiken.

Society Meetings.—At the annual meeting of the Medical Society of Frederick County, held in Frederick, November 11, Dr. Arthur H. Hawkins, Cumberland, councilor for the district, spoke on "The Best Means of Having Largely Attended and Profitable Meetings of County Societies by Means of Postgraduates Courses and Carefully Reported Clinical Cases," and stated his belief the instruction afforded in this way would gradually draw all eligible physicians to join the organizations and remain in them from motives of self-interest. He instanced the work accomplished in this way in the Allegany County Medical Society and the different feeling engendered. The following officers were elected: Dr. Thomas C. Routson, Buckeystown, president; Drs. H. Slicer Hedges, Brunswick, and Charles F. Goodell, Frederick, vice-presidents; Dr. Franklin B. Smith, Frederick, secretary; Dr. Wilson A. Long, Frederick, treasurer; Dr. Charles H. Conley, Adamstown, censor, and Dr. Ira J. McCurdy, Frederick, delegate to the Medical and Chirurgical Faculty of Maryland.——At the annual meeting of Queen Anne County Medical Society, held recently, Dr. William G. Coppage, Church Hill, was elected president, and Dr. Ernest F. Smith, secretary.

Baltimore.

Grenfell in Baltimore.—Dr. Wilfred T. Grenfell of Labrador will be a guest of Dr. Henry M. Hurd in Baltimore, December 15 and 16, and will make several addresses on the subject of his work in Labrador.

Society Election.—At the annual meeting of Baltimore City Medical Society, held December 1, the following officers were elected: President, Dr. Jacob H. Hartman; vice-president, Dr. William D. Booker; secretary, Dr. William E. Magruder; treasurer, Dr. William S. Gardner, and censor, Dr. Randolph Winslow.

Personal.—Dr. Peregrine Wroth, Jr., resident physician at the Union Protestant Infirmary, has resigned and entered practice at Hagerstown. He will be succeeded by Dr. Richard P. Bell, of Staunton, Va. Dr. Harry L. Homer has been made first assistant and Dr. Arthur H. Morse, second assistant; Drs. James H. Scarborough and J. P. Fletcher have been appointed surgical internes and Dr. J. E. Barnes, Charleston,

W. Va., has been appointed medical interne at the institution. ——At the annual meeting of St. Andrews' Society November 30, Dr. George A. Fleming was elected president and Dr. G. Lane Taneyhill and Dr. Thomas L. Shearer were elected physicians.

MASSACHUSETTS.

The Smallpox Situation.—The smallpox situation in Springfield remains practically unchanged, and there are still about twenty-five families under quarantine.

Staff for Crippled Children's Home.—At the annual meeting of the New England Peabody Home for Crippled Children, Drs. Robert W. Lovett and Robert Souter were chosen attending surgeons; Dr. Henry H. Hitchcock, attending physician; Dr. Leon W. Mansur, oculist; and Drs. Abner Post, John H. McCollom, Albion S. Whitmore and Edwin B. Kellogg, consulting physicians.

Infectious Diseases.—There were reported to the State Board of Health during October the following infectious diseases: Diphtheria, 1,371 cases; tuberculosis, 593; scarlet fever, 592; typhoid fever, 495; measles, 321; whooping cough, 75; varicella, 64; cerebrospinal meningitis, 10; erysipelas, 3; rabies, 3; tetanus, 2; mumps, 2; ophthalmia neonatorum, 1; and malignant pustule, 1.

October Deaths.—During October, there were reported to the State Board of Health 3,294 deaths. Of these 1,114 were of children under 5 years of age; 986 were from the principal infectious diseases: 262 from acute lung diseases; 275 from phthisis; 67 from diphtheria; 42 from typhoid fever, and 8 from measles. During the month there were also reported 9 deaths from cerebrospinal meningitis, 5 from scarlet fever, 13 from whooping cough, 4 from meningitis, and 1 each from influenza, smallpox, tetanus, anthrax and glanders.

Personal.—Dr. Carl L. Alsberg has resigned his position in the department of physiological chemistry in Harvard Medical School, to take charge of the poisonous plant investigation in the bureau of plant industries of the United States Department of Agriculture.——Prof. W. B. Cannon has been elected president; Dr. J. L. Brenner, secretary, and Dr. Frank B. Mallory, treasurer of the Boston Society of Medical Sciences.——Dr. George W. Dow, Lawrence, has been reappointed medical examiner and Dr. Victor A. Reed, Lawrence, has been appointed assistant medical examiner for the Fifth Essex District.——Dr. Joseph Santosuosso, Boston, a member of the common council, has been admitted to the bar and expects to devote himself to the law, dropping his medical practice.——Dr. Anson C. Peckham has resigned as a member of the staff of Union Hospital, Fall River.

NEW JERSEY.

Society Meetings.—The Clinical Society of the Oranges was recently organized, with six charter members, for the study of therapeutics, clinical medicine and surgery. Dr. Leonard H. Smith, East Orange, was elected president, and Dr. Charles W. Buvinger, East Orange, secretary-treasurer.——Middlesex has organized what is said to be the first county District-School Physician's Association in the United States, of which Dr. Henry D. Van Zandt, Jamesburg, has been elected temporary chairman, and Dr. Edwin I. Cronk, New Brunswick, temporary secretary.——The annual meeting of the Ocean County Medical Society was held recently in Lakewood, when Dr. William G. Schauffler, Lakewood, was elected president; Dr. Otto C. Thompson, Cassville, vice-president; Dr. Alexander M. Heron, Lakewood, secretary; Dr. Irwin H. Hance, Lakewood, treasurer, and Dr. Vanderhoef M. Disbrow, Lakewood, delegate to the state medical society.——At a meeting of the Tri-County Medical Society, comprising the counties of Salem, Gloucester and Cumberland, held in Bridgeton, October 28, the following officers were elected: President, Dr. Henry B. Diverty, Woodbury; vice-presidents, Drs. Richard M. A. Davis, Salem, and Walter P.Glendon, Cedarville, and secretary-treasurer, Dr. George E. Reading, Woodbury.——The tenth annual meeting of the Tri-County Medical Association, comprising the counties of Morris, Sussex and Warren, was held in Washington, October 13, when the following officers were elected: President, Dr. Jackson B. Pellett, Hamburg; vice-presidents, Drs. James Douglas, Morristown, and James M. Reese, Phillipsburg; secretary, Dr. Charles B. Smith, Washington; treasurer, Dr. Frederick W. Flagge, Rockaway; and executive board, Drs. Bruno Hood, Newton, Stephen Pierson, Morristown, and Frank W. Curtis, Stewartsville.——At the annual meeting of the Washington Medical Society, Dr. Charles B. Smith was elected president; Dr. Frank P. McKinstrey, vice-president; Dr. Thomas S. Dedrich, secretary; Dr. George C. Young, corresponding secretary; and Dr. Charles M. Williams, treasurer.——The Practitioners' Society of East Monmouth, at its annual meeting held in Redbank, elected Dr. Joseph T. Welch, president; Dr. George H. Baker, vice-president; Dr. Edward M. Beach, secretary; and Dr. William K. Campbell, treasurer, all of Long Branch.

NEW YORK.

Hospital Bed Endowed.—Mrs. Russell Sage has completed an endowment of $5,000 for a bed in the Nassau Hospital at Mineola, L. I., in memory of a friend.

Another X-Ray Victim.—Dr. Fred D. Andrew, Rochester, radiologist of the Rochester City Hospital, was obliged to have his left hand amputated December 4, on account of disease due to frequent exposure to the *x*-ray.

Personal.—Dr. Warren B. Andrews, Newburgh, has resigned as physician of the City and Town Home and of the Children's Home.——Dr. Don M. Hooks, Binghamton, has been appointed coroner of Broome county.——Dr. William Hollinger, Newburgh, was thrown from a carriage in a runaway accident, November 19, but escaped serious injury.

No Fear of Milk Famine.—Although the milk supply has been curtailed on account of quarantining cattle afflicted with the foot and mouth disease there is no immediate danger of a milk famine. In the opinion of the health board officials there is no danger of the milk supply becoming infected from this source. Inspectors are keeping close watch and call for the immediate killing and burning of all cattle having the disease, and it is believed that the disease will be quickly exterminated. The slaughter of infected animals was begun November 21 in thirteen localities in the western part of the state. Even shipments coming to New York City under bond, consigned to foreign ports, have been held up and in some cases the government has ordered the killing of cattle.

To Safeguard Medical Research.—The Medical Society of the State of New York has issued the following letter to the practitioners of medicine of the State of New York:

> The Society for the Prevention of Abuse in Animal Experimentation last year caused to be introduced into the Legislature of this State a bill seriously restricting experiments on living animals. The above named society now enters the field again and proposes another bill of the same general character as that of last year. The Medical Society of the State of ————————, through its committees on legislation and experimental medicine, successfully opposed the passage of last year's measure. Acting under the resolution referring to animal experimentation, which was passed at the last annual meeting of the state society, its committees on legislation and experimental medicine will oppose the passage of the proposed bill. We, therefore, urge all members of the medical profession to disapprove the measure and on its introduction into the legislature, to work in all legitimate ways for its defeat. Specific objections to it will be presented later.

The letter is signed by Drs. Frank Van Fleet, chairman of the Committee on Legislation; Joseph D. Bryant, chairman of the Committee on Experimental Medicine; and John G. Curtis, secretary of the Committee on Experimental Medicine.

New York City.

Personal.—Dr. Charles L. Dana returned from Europe November 30.——Dr. Rufus I. Cole, Johns Hopkins Medical School, Baltimore, has been appointed director of the hospital of the Rockefeller Institute for Medical Research and Dr. Christian A. Herter, physician to the hospital.——Dr. S. Irving L. Roome, Stapleton, is said to be in a critical condition in the S. R. Smith Infirmary, from the effects of an overdose of morphin.

Brooklyn's Jewish Hospital.—This hospital, which was opened in December, 1906, has had during the past year 2,720 applicants for admission, which is an increase of 60 per cent. over the previous year. The dispensary consultations numbered 19,152, an increase of 61.5 per cent. It was stated that two new wings were needed and that the training school has grown so rapidly as to make additional equipment imperative. The hospital is entirely supported by subscription.

The Red Cross and Tuberculosis.—At the annual meeting of the New York branch of the American National Red Cross it was announced that the camp at Schenectady would be reopened in the spring. The camp which is to be opened in the roof of the Vanderbilt Clinic has received $5,000. The clinic has fitted up the roof at a cost of $10,000 and will furnish the physicians. When this camp is fully equipped it will care for more than one hundred patients. Christmas stamps are being sold to support this work. The stamps were recently pictured and described in THE JOURNAL.

The Dam Builders' Model Camp.—Frequently in doing the work on the conduits for the water supply of New York City

the camps for the workers have been a menace to the health of the community, but in building the dam near Esopus, which is to set back the waters of the Esopus and form the great Ashokan reservoir to furnish the future water supply of New York City, a model camp has been established. Camp City is a camp in name only, being equipped with sewers, water mains, a modern sewage disposal camp and many up-to-date educational advantages both for children and adults.

Proposal to Abet Charity Abuse.—There is a rule at Bellevue and the Allied Hospitals which makes it permissible to charge a patient who has in his possession more than $50 when he is admitted, $1.50 a day. Coroner Harburger says that this is confiscation of other people's money and is contrary to the provisions of the hospital charter. In consonance with this view he has prepared a bill which will be introduced at the coming session of the legislature in Albany to the effect that all patients who reside in the City of New York and are admitted for treatment to Bellevue and Allied Hospitals of the City of New York shall be admitted free of all charge, and if the patients have money in their possession, none of it shall be taken from them and charged to treatment. Dr. Brannan, president of the board of trustees of Bellevue and Allied Hospitals, states that the rule to which Dr. Harburger objected, had been adopted on the advice of the corporation counsel, in order to prevent persons who were able to pay from obtaining free treatment.

Buffalo.

Fee for Reporting Contagious Diseases.—The State Commissioner of Health is said to have made a ruling that physicians reporting cases of contagious diseases are entitled to a fee of $1 for each case reported.

Roswell Park's Jubilee.—This year marks the twenty-fifth anniversary of Dr. Roswell Park's professorship in the University of Buffalo. In commemoration of the event a dinner was tendered him December 7, in the Hotel Iroquois, by the medical profession of Buffalo, as an expression of their appreciation of Dr. Park as a teacher and of his ability as a surgeon.

Personal.—Dr. Dewitt G. Wilcox is about to remove to Boston.——Dr. Francis E. Fronczak, assistant health commissioner, and also commissioner of health in the town of Cheektowaga, was assaulted by some resentful tenants whose houses he was obliged to quarantine. He swore out warrants for six of his assailants who were tried before a justice of the peace and sentenced each to thirty days in the penitentiary without option of fine.

OHIO.

Library for County Physicians.—Quarters have been secured for the library of the Richland County Medical Society in the Municipal Library Building, Mansfield, where medical books and journals are to be kept in easy access of physicians and out of the reach of the general public.

Personal.—Dr. John F. Jones, Columbus, has succeeded as jail physician. Dr. John F. Hane, recently chosen coroner of Franklin county.——Dr. Charles A. Stephens, Helena, sustained serious injuries November 20, by the overturning of his automobile.——Dr. W. B. Tracy, Newark, has been appointed assistant physician at the Athens State Hospital for the Insane.——Dr. David G. Sanor has been chosen chief of staff of Mercy Hospital, Columbus, vice Dr. Schueller, resigned.——Dr. and Mrs. Hanson P. Shelton, Georgetown, sailed for Europe, November 28.

Cincinnati.

Non-Partisan Board of Health.—The Cincinnati Academy of Medicine, the Ministerial Alliance, the City Club, and associated organizations, have endorsed a resolution to establish a non-partisan board of health separate from the board of public service, and to be appointed by the mayor.

Personal.—Dr. Charles A. L. Reed has had conferred on him the cross of the Legion of Honor of France.——Dr. Samuel E. Allen was thrown from his buggy in a collision with an automobile recently, and was seriously injured.——Dr. Robert Mussey, interne in the City Hospital, was operated on November 19, for appendicitis.——Dr. Charles L. Bonifield was struck by his own automobile several weeks ago and sustained a fracture of the fibula.

Defective School Children Segregated.—One hundred and fifty children of the public schools of Cincinnati who are four years or more behind on their studies, have been segregated in one school and are to be examined by the following corps of specialists who have volunteered their services: Diseases of the eye—Drs. Frank B. Cross, Walter Forchheimer, William H. Campbell, Wylie McL. Ayres, Louis Stricker, and Albert E. Hussey; diseases of the ear—Drs. Walter E. Murphy, Samuel Iglauer, William Mithoefer, Clayton B. Conwell, and William C. Harris; nervous diseases—Drs. David I. Wolfstein and Philip Zenner. Dr. Marian Schaar will investigate the environment of the children outside of school hours and Drs. Mark A. Brown and Louis Maloney will make such physical examination as may be required.

PENNSYLVANIA.

School Surrenders Charter.—A petition has been filed by the stockholders of the Western Pennsylvania Medical College, Pittsburg, asking permission to surrender all powers contained in its charter and for a dissolution of its corporation. The petition states that the corporation has sold and conveyed to the University of Pittsburg all its real estate, equipment and physical assets.

Cattle Disease No Longer a Menace.—The State Live Stock Sanitary Board, November 25, received reports which indicate that the epidemic of foot and mouth disease among cattle is under control. It has been recently learned that many of the alleged cases reported to the veterinary officers have been erroneous. The state health commissioner has sent a letter to each of his county medical inspectors, 733 health officers, and other field men, instructing them to give all aid in their power in the fight against the disease.

Personal.—Dr. Harry M. Wasley has been appointed director of the State Dispensary for Tuberculosis at Shenandoah.——Dr. William P. Painter, Darby, fell down stairs at his home, November 25, and is still confined to his bed.——Dr. William T. Davis, first assistant at the State Hospital, Fountain Springs, is reported to be seriously ill at that institution.——Dr. H. Herbert Herbst has been elected mayor of Allentown.——Dr. Frank G. Bryant, Scranton, has been appointed special medical inspector in charge of the scarlet fever situation.——Dr. James L. Jamison has been made health officer of Wrightsville.——Dr. and Mrs. Claude W. McKee, Scottdale, sailed for Europe November 28.

Typhoid Fever in Reading.—Typhoid fever is still on the increase in Reading. On December 4, 62 new cases were reported, and on December 5 27, thus making a total reported thus far of 529. The State Health Commissioner has been asked by the local Board of Health to take charge of the situation. Dr. Dixon has already responded by sending his chief sanitary engineer, with twenty-five trained inspectors and also chief state medical inspector, Dr. Arthur B. Moulton, with a corps of nurses, under the supervision of Miss Alice M. O'Halleran. The water and milk supply of the city have been diligently investigated by the sanitary inspectors, but thus far the source of contagion has not been discovered. All houses containing typhoid fever patients are placarded, and notices asking the residents to boil all drinking water, have been distributed throughout the city.

Philadelphia.

Entire Resident Staff Dismissed.—Troubles which have persisted for nearly a year at St. Agnes Hospital are said to have culminated, December 1, in the dismissal of the entire resident staff for "inefficiency and insubordination."

Personal.—Dr. H. Conrad Egly, former assistant surgeon of the Mexican Central Railroad at Aguas Calientes, Mexico, has been transferred to take charge of the emergency car at the Culican front of the C. R. Y. & P. Railroad, Sinaloa.——Dr. S. Ira McDowell sailed for England November 28.

Gift to Hospital.—The hospital of the Woman's Medical College of Philadelphia has recently received as a gift from several individuals the furnishing of five private rooms. In addition to this, the hospital received, as the result of a fraternity entertainment, $310, which will be used in furnishing two new rooms in the hospital, the surplus being employed as the management may see fit.

SOUTH CAROLINA.

Physician Not Guilty.—In the case of Dr. William L. Linder, Union, charged with shooting a negress who had previously made an attempt on his life last November, the jury returned a verdict of not guilty, holding that the shooting was in self-defense.

Medical College Opens.—The Medical College of the State of South Carolina, Charleston, opened October 1, with the largest enrolment in the history of the institution. In the absence of Dr. George Wilson, dean of the college, Dr. Lane

Mullally welcomed the students. Dr. Charles M. Reese, the new professor of general surgery, also addressed the students. The college has spent about $3,500 in the enlargement of the laboratory, which has nearly trebled its floor space.

Conference on Pellagra.—On October 29, a conference on pellagra was held at the State Hospital for the Insane, Columbia, at which a number of physicians from North Carolina, Georgia and South Carolina were present. A large proportion of the papers read were devoted to the causation of pellagra, the maize theory and the germ theory each being considered. The board of regents of the state hospital passed resolutions directing the attention of the state board of health to the necessity of placing the whole problem of pellagra in the hands of expert pathologists and bacteriologists. A committee was appointed to arrange for the publication and distribution of the transactions of the conference, and a second committee to decide whether or not it is advisable to form a society in the South Atlantic and Gulf States for the study of tropical diseases.

TENNESSEE.

New Clinic Opened.—Tennessee Medical College, Knoxville, has established a free clinic, to be opened daily from 1:30 to 3 p. m. A general reception room has been arranged, and also a number of smaller rooms for the treatment of the different classes of diseases.

Tuberculosis Dispensary.—Arrangements have been made by the Centennial Club of Nashville to establish a free dispensary for indigent consumptives. A room is to be made ready on the third floor of the building occupied by the health department, where these patients may obtain medicine, advice and aid.

Commencement Exercises.—The commencement exercises of the Medical Department of the University of the South, Sewanee, were held October 27, when a class of 36 was graduated. Dr. John S. Cain, dean of the medical department, made the doctorate address, and the diplomas were awarded by the vice-chancellor, B. Walton Wiggins.

Personal.—The following physicians have been elected directors of the Knoxville Association for the Prevention and Relief of Tuberculosis: Benjamin D. Bosworth, Henry P. Coile, Albert G. Kern and Ernest R. Zemp.——Dr. John Overton has succeeded Dr. E. E. Reismann, resigned, as house surgeon of the Nashville City Hospital——Dr. Benjamin F. Turner, Memphis, has been appointed a member of the city park commission.——Dr. H. M. Boswell, interne in the Nashville City Hospital, has resigned.

WASHINGTON.

Compulsory Vaccination.—The enforcement of the order of the school board that all children should be vaccinated before November 9, caused 1,647 unvaccinated children on that day to be sent home from the public schools of Seattle.

Mulcted for Unauthorized Autopsy.—The jury in the case of Joseph Beeman against Dr. Marion F. Setters, Spokane, charged with performing an illegal autopsy January 4 last, is said to have returned a verdict for the plaintiff, allowing him $1,000 damages. The amount of damages claimed was $10,000.

Personal.—Dr. Robert L. Maloney has been appointed health officer of Anacortes, vice Dr. Frederic S. Sandborg.——Dr. A. Jefferson Nelson has been appointed assistant medical inspector of Ballard, vice Dr. H. P. Heliker, resigned.——Dr. Ernest L. Bickford, Seattle, has returned after a year abroad. ——Dr. Henry J. Fleischer, Seattle, has been taken to the Portland Sanatorium for treatment.——Dr. John Nywening is announced as the next health officer of North Yakima.

WISCONSIN.

Epidemic Diseases.—On account of an epidemic of smallpox, the churches and schools of Manitowoc were closed November 22 and fifty houses are under quarantine.——The schools of Green Bay were closed November 25, on account of the prevalence of diphtheria. It is estimated that there are now more than 25 cases in the city.

Personal.—Dr. E. Clayton Pratt, Milwaukee, has been appointed assistant surgeon to the Wisconsin Veterans' Home.——Dr. Charles L. Sonnemann, Milwaukee, was held up, November 12, and robbed of a gold watch.——Dr. Maurice D. Bird has succeeded Dr. George F. Colter as president of the Menominee River Hospital, Marinette.——Dr. Edward Spegelberg, house physician at the Emergency Hospital, Milwaukee, has resigned and will enter private practice in Wausau.——Dr. Ulysses M. Horswell, Wausaukee, has succeeded Dr. William R. Bell, resigned as health officer. After a course of study at Rochester, Minn., Dr. Bell expects to go abroad for two years or more.

GENERAL NEWS AND COMMENT.

Surgeons and Gynecologists to Meet.—The twenty-fourth annual meeting of the Southern Surgical and Gynecological Association will be held in the Planters' Hotel, St. Louis, December 15, 16 and 17, under the presidency of Dr. Frederick W. Parham, New Orleans. Dr. John Young Brown is chairman of the committee on arrangements.

Sanatorium for Printers in Arizona.—The International Typographical Union, which maintains a home for sick and aged printers in Colorado, is about to establish a tuberculosis tent sanatorium for its members in Arizona. At the recent meeting of the union, $10,000 was appropriated for the establishment of the tent sanatorium, not more than one-half of which is to be used for construction of headquarters.

Society Meeting.—At the annual meeting of the Ohio Valley Medical Association, held at French Lick Springs, Ind., November 11, 12 and 13, the following officers were elected: President, Dr. Curran Pope, Louisville; vice-presidents, Drs. Albert E. Sterne, Indianapolis; G. Frank Lydston, Chicago; and Earl Harlan, Cincinnati; and secretary-treasurer, Dr. Benjamin L. W. Floyd, Evansville, Ind. Evansville was selected as the place for the next annual meeting.

Gorgas Starts for Chile.—Col. William C. Gorgas, president of the Isthmian Canal Commission, sailed for Valparaiso, Chile, from La Boca, November 23. Colonel Gorgas has been appointed one of the ten delegates from the United States to the Pan-American Scientific Congress to meet at Santiago, Chile, Christmas Day, and will present a paper on "The Control of Yellow Fever in the Tropics." Dr. Pedro Obarrio, superintendent of Santo Tonas Hospital, Panama, delegate from the Republic of Panama, sailed on the same steamer.

Cholera in the Philippines.—During the week ended September 26, there were 314 cases of cholera, with 184 deaths, in the city of Manila, and during the same week 1,122 cases, with 745 deaths, were reported from the provinces. During the succeeding week, 67 cases of cholera and 33 deaths were reported from Manila and 1,666 cases, with 977 deaths, from the provinces.——On account of two cases of cholera having occurred on the U. S. Army transport *Sheridan*, the steamer was disinfected and held in quarantine for seven days.

Plague Prevention Work.—Passed Assistant Surgeon Rupert Blue, P. H. and M.-H. Service, reports that the last case of plague in San Francisco was reported January 30; that during the week ended November 14, 11 sick and 103 dead were inspected, no case of plague being found; and that 1,352 rats were examined bacteriologically, no plague-infected rats being found. At Oakland and Port Richmond for the previous week no plague-infected rats were found. The reports from Los Angeles, Cal., and Seattle, Wash., regarding the examination of rats for plague infection, produce similar negative results.

Antityphoid Immunization Approved for Army.—The board of medical scientists, composed of Surgeon-General Robert M. O'Reilly, Drs. Victor C. Vaughan, Ann Arbor, William T. Councilman, Boston, John H. Musser, Philadelphia, Alexander Lambert and Simon Flexner, New York City, and William S. Thayer, Baltimore, which met at the War Department, December 7, and considered the advisability of immunizing soldiers against typhoid fever by vaccination, recommended that the method be adopted in the United States Army, and issued the following statement: "The board is convinced of the usefulness and harmlessness of antityphoid vaccination, and recommends that the practice of voluntary vaccination be introduced in the Army of the United States as a practicable means of diminishing the extent of typhoid fever."

The Canal Zone.—The report of the sanitary department of the Isthmian Canal Commission for September shows a sick rate of 25.09 per 1,000, which compares favorably with the rate of 27.28 for 1907, and of 37.74 for 1906, and is lower than the rate for August, which was 25.24 per 1,000. This means that comparing September, 1908, with September, 1906, there has been a saving in the working force of 16,200 days of illness. The death rates show a similar improvement. In September, 1905, the rate was 33.52 per 1,000; in September, 1906, 57.34 per 1,000; in September, 1907, 28.63 per 1,000; and in September, 1908, 12.78 per 1,000.——Of the 19 deaths of whites during the month, 12 were due to violence, while of the 29 deaths among negroes, 5 were due to this cause.

The death rate for white employés for September was at the annual rate of 18.43 per 1,000, and that for colored workmen, 10.65. There has been a marked decrease in the cases of malaria for September. In September, 1907, there wer 1,811 cases of malaria among employés; in August, 1908, 1,525; and in September, 1,410.

Newspaper Publishes Retraction.—The suit brought by Dr. S. Adolphus Knopf, New York City, against the Philadelphia *North American*, which on May 7, 1907, misquoted an address delivered by Dr. Knopf, in which he was erroneously credited with saying that when a patient is dying of tuberculosis the physician should administer morphin in large doses so "that he may go painlessly and quickly," has been settled satisfactorily by a compromise, and in the *North American*, November 29, a retraction was published, and Dr. Knopf's statement, which had been misquoted, was correctly made as follows: "When we are in the presence of a dying consumptive, who is suffering, I believe it is our sacred duty to give him morphin to relieve his pains and make him comfortable, and let him die easy." It is understood that substantial damages have been paid Dr. Knopf, as well as reimbursement for his expenses in the suit, which has now been dropped, and also that the sum received for damages has been turned over by Dr. Knopf to the National Association for the Study and Prevention of Tuberculosis, to be used for the benefit of the consumptive poor, under the direction of the directors of the association. Dr. Knopf's friends are congratulating him on having pushed the suit to this satisfactory settlement, especially in view of the fact that the result indicates that physicians who are grossly misquoted, maliciously or otherwise, in the public press, may look for satisfaction in view of the injury thereby inflicted.

FOREIGN NEWS.

Fourth International Congress for Medical Electrology and Radiology.—The three preceding congresses were held at Paris in 1900, Berne in 1903 and Milan in 1906, and the fourth at Amsterdam in September, 1908. The permanent international committee includes C. Beck of New York, S. Leduc of Nantes, Bozzolo of Turin and Albers Schönberg of Hamburg, with Tripier of Paris as president and Oudin of Paris, Schiff of Vienna and Wertheim Salomonson as vice-presidents. The latter was president of the congress. The recent developments in precision registration of the movements of the heart by the string galvanometer rendered very timely Boruttau's address on the "Current of Action," the electric currents emanating from the heart muscle in action being the means by which the movements of the heart muscle are registered on the string galvanometer. Roentgen diagnosis showed great progress achieved since the previous meeting. The fulguration or lightning treatment of cancer was one of the interesting features of the congress. The exhibit of skiagrams, especially the stereoscopic Roentgen pictures exhibited, testified to the great strides in Roentgen diagnosis in the last three years, although the imperfections of all the measures for dosage of the rays at present in vogue were denounced by various speakers.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Nov. 28, 1908.

Compensation for Industrial Diseases.

The second report of the departmental committee on compensation for industrial diseases has been issued. It deals mainly with glassworkers' cataract and telegraphists' cramp. Dr. Legge, medical inspector of factories, has made an exhaustive inquiry with a view to determining the incidence of the former disease among glass workers. He examined the eyes of 513 persons exposed to the furnace glare in glassworks. He found that all classes of workers so exposed appear to suffer and that between the age of 30 and 40 opacities of one kind and another in the lens were about five times as frequent as in those engaged in other work; between 41 and 50, twice as frequent; and after 50, more than three times as frequent. Approaching the problem from the point of view of disablement comparison was made between 10,549 members of the Hearts of Oak Benefit Society in receipt of reduced sick allowance and 186 superannuated members of glass bottle societies. The percentage of cataract in the former was only .78, but in the latter it was 22.6. For many years the efficiency of the workman is little affected. Hence the difficulty of legislating for compensation. During the period of efficiency the workman can not claim that the disease has incapacitated him, and if the law required that half wages should be paid during the rest of the life of an artisan who had lost skill through cataract, employers might insist on a medical examination of the eyes and no employer would engage a man who showed incipient traces of the malady. Therefore, it is concluded that if the disease were scheduled like the other industrial diseases in the workmen's compensation act, the workpeople in the glass trade would lose more than they would gain. The committee recommend that when removal of the cataract becomes necessary, compensation should be made payable for a period not exceeding six months.

With regard to telegraphists' cramp, a proportion of those who use the Morse key instrument are found to be affected. The symptoms are pain, not confined to one group of muscles, spasm, tremor and weakness. The committee recommend that this disease should be considered as specific to the employment and subject to compensation.

Anglo-German Agreement as to Sleeping Sickness.

With view to the more effectual combating of sleeping sickness in the British and German possessions in East Africa, the two governments have agreed to take such steps as are practicable to prevent affected natives from passing into each other's territories. All such natives will be detained or segregated in the territory in which they are found. All natives will be prevented as far as possible from crossing from one territory into areas in the other which are declared infected. Segregation camps will be established at adjacent points of the boundary for the detention and care of affected natives. Crocodiles and other animals suspected of being a source of aliment to the glossina palpalis will be destroyed.

Cooperation Between Ministers and Physicians.

The movement which originated in Emmanuel Church, Boston, has spread to this country. The Pan-American Congress, which was held last summer, was attended, for the first time in the history of the Church of England, by delegates from all her dioceses and from the dioceses of all the churches in the world in communion with her. Church problems of all sorts were discussed, and at one of the meetings it was suggested that the clergy should study psychology in its relation to bodily disease. In the report which followed the proposition was submitted that bodily disease is a breach in the harmony of the divine purpose and is caused by want of moral harmony with the divine will. The suggestion was made that restoration of this harmony will often bring with it restoration of health. As a consequence the congress left behind it a heritage in the shape of the "Church and Medical Union," which was formed to promote cooperation of ministers and doctors in the healing of the sick. It has been alleged that the new movement is only a variant of what is called Eddyism, but it differs from the latter in not ignoring the physical aspect of disease and the medical profession.

PARIS LETTER.

(From Our Regular Correspondent.)

PARIS, Nov. 26, 1908.

The Nobel Prize.

Although the names of winners of the Nobel prize are always kept secret, some inkling always creeps out beforehand, if only because the winners, being obliged to go to Stockholm for the ceremony of the distribution of the prizes, are informed some months beforehand. It is already certain that the prize in medicine this year will go to Professors Metchnikoff, assistant director of the Pasteur Institute at Paris, and Ehrlich, director of the Institute of Experimental Therapeutics at Frankfort.

Resumption of the Courses of Anatomy at the Paris Medical School.

In view of the obstreperous conduct of the first and second year students, which prevented Professor Nicolas from giving his course (as mentioned in THE JOURNAL, Nov. 12, 1908, li, 1879, and Nov. 30, 1907, xlix, 1853), the dean posted notices at the entrance to the school stating that, if the students had complaints to make it was not through the daily papers that the dean ought to learn them, but through a delegation of those interested, which he was ready to receive. In response to this invitation, the students sent a delegation to express their wishes, among which was the assignment of a cadaver to each five students, instead of to each seven. The committee on instruction in practical anatomy has granted the chief demands of the students. There seems no excuse for continuing the agitation further; but the persons intriguing against Professor Nicolas have not given up. Fortunately,

the Corporate Association of Medical Students has intervened. The majority have followed wise counsels, and now all is in order. The students who attend Professor Nicolas' class are less numerous than previously, but now they come to listen to him, while formerly they came to prevent him from speaking.

Deaths.

During the last few days, the medical profession has lost three members in high stations. Dr. Alix Joffroy, clinical professor of mental pathology and of diseases of the brain in the Paris Medical School, died suddenly from angina pectoris, aged 64. He was a modest savant, who had organized a sober and practical course of instruction at the Ste. Anne Asylum, where he had given his lesson the previous Saturday.

Dr. Hamy, one of our most remarkable anthropologists, has just died, aged 66. He took his doctor's degree in 1868, entered the Museum of Natural History of Paris in 1872, and from 1874 to 1887 had charge of numerous missions thence. He founded in 1880 the museum of ethnography of the Trocadero, of which he was curator, and which has made great growth. In 1882 he was named professor of anthropology of the museum, which post he held at his death. He was member of various learned societies—of the Society of Americanists, among others. In 1903 he was chosen associate at large of the Academy of Medicine.

Dr. Felizet, who died at 64, was formerly a surgeon of the hospitals of Paris and secretary general of the Surgical Society. He early began to specialize in surgery for children, and his treatise on "Inguinal Hernia in Children," is an authority on the subject.

BERLIN LETTER.

(*From Our Regular Correspondent.*)

BERLIN, Nov. 19, 1908.

Mortality from Puerperal Fever.

The puerperal mortality is still very high in Germany; in Prussia alone, in 1906, 3,722 women died of puerperal fever; of every 10,000 women living, 1.97 died, for every 10,000 deliveries about 29 died in childbed. The conditions are, strange to say, more unfavorable in the cities than in the country districts. Proportionately, the condition is most unfavorable in Berlin, where among 10,000 women delivered, 56.48 died in childbed, which is nearly twice the average for the whole of Prussia. These facts have for a long time caused the recognition of the necessity of improvement of the midwife system, as an important factor in the prevention of puerperal mortality. The number of midwives is also too small, especially in rural communities, where they find an insufficient livelihood, and the reliability of the midwives is often not equal to the requirements. Conditions will certainly be improved by the law passed this year in Prussia in regard to remuneration of midwives. The legal regulation of their fees brings the possibility of a more prosperous development for the profession of midwifery. The law establishes three categories of midwives: the "district midwives," on a salary; the midwives who are engaged by the authorities in charge of the indigent to give obstetric assistance to those needing help, and the midwives with independent practice. Moreover, a distinction is made between city and country midwives as their remuneration must be different in the large towns. In order that there may be a sufficient number of district midwives appointed for the rural districts, it is provided that the less well-to-do communities shall be assisted by financial aid from the state. A recent decree states that assistance of this sort shall as a rule be given only in districts that apply a definite part of their income from taxes to the support of midwives, and assure to the district midwife a definite income, either by granting a definite minimum salary, or by fixed supplements which shall reach this minimum sum when added to the income from practice. Also a free provision of instruments, apparatus, means of disinfection, etc.; assurance of compensation for interruption of business in consequence of infectious diseases, and, lastly, a definite provision in case of disability in the line of duty.

Tuberculosis Crusade.

It has been suggested to the Reichstag by some representatives of the national liberal party that the Reichstag shall request the federal government to lay before it as soon as possible a bill which shall extend the campaign against tuberculosis to the classes of the population which have so far been exempted from provision for care, especially by provision for more adequate financial resources and by legal regulations to insure proper disinfection of infected dwellings.

Medical Superintendence of Sanatoria.

Early in October the Prussian minister of education (Kultusminister) published an order involving the principles for the conducting of sanatoria by physicians: A responsible medical superintendent shall be provided for each sanatorium for the general care of the patients and for sanitary measures. In all large public sanatoria there must be a physician appointed to conduct the treatment of the patients, or a physician must be placed at the head of each department. In smaller public institutions, especially in smaller places, the permission may be extended to several or to all physicians to treat the patients referred to the sanatorium by them, or they may be called on for mutual assistance, provided that one physician stands responsible for the hygiene of the house, the training and supervision of the nurses, and other measures necessary for the general care of the patients. All institutions having more than 30 beds are included among the large sanatoria.

Sick Benefit Societies in Berlin.

The last annual municipal report gives information regarding the extent of the industrial insurance in Berlin. According to this the property of the societies amounts to about 17,600,000 marks ($4,224,000). The entire expenditures amounted to 32,700,000 marks ($7,748,000) in contrast to an income of 34,000,000 marks ($8,160,000). This was disbursed as follows: For medical treatment, 3,300,000 marks ($792,000); for medicines, 3,00,000 marks ($720,000); for indemnities to the sick, 11,600,000 marks ($2,784,000). About 3,500,000 marks ($840,000) were paid to the sanatoria for treatment and care. The number of workmen insured was about 730,000. There are 129 of these different industrial insurance societies in Berlin.

Popular and Juvenile Sports.

Following the praiseworthy example of America and England, sports have been fostered to a greater extent in Germany during the last few years, especially among the youth in schools. In this way for some time the introduction of popular and juvenile games has been favored and there are a number of successful results to show in this field. In a large number of communities playgrounds for the schools have been established, partly by the communal authorities and partly by societies. In a large number of cases the drill grounds have been placed at the disposal of the schools for this purpose by the military authorities. In about 500 grade and high schools a playtime obligatory on all pupils has been introduced in addition to the ordinary hours for gymnastics. In a large number of other schools such a regular playtime is optional. Also in a number of schools a regular system of outdoor sports is organized for the vacations. In a smaller way instruction in swimming and sport on the ice is favored in the schools. From all these measures it may be hoped that the growing youth will no longer, as has often formerly been the case, restrict its ambitions exclusively to mental training, but will also seek in addition a sufficient physical development so that the old proverb, "*Mens sana in corpore sano*," may attain a higher significance for the youth of Germany.

VIENNA LETTER.

(*From Our Regular Correspondent.*)

VIENNA, Nov. 19, 1908.

Scarcity of Water in Vienna.

The remarkable weather conditions prevailing over central Europe since about July have caused an unprecedented fall in the daily water supply of Vienna. For a time much alarm was felt. Since the completion, in 1873, of the waterworks system, which usually brings over 26,000,000 gallons of pure, fresh mountain water daily to Vienna, typhoid fever has been practically limited to sporadic cases. The drought has reduced the daily flow of water to below 21,000,000 gallons, and the pipes supplying houses have had to be partially closed, causing much discomfort. There is, however, no danger to the public health, as all other sources of water were made useless many years ago.

Prophylaxis Against Infectious Disease.

A bill is proposed to require notification of the following diseases: Asiatic cholera, plague, smallpox, black water fever, typhoid fever, relapsing fever, leprosy, yellow fever, dysentery, scarlet fever, diphtheria, epidemic cerebrospinal meningitis, anthrax, glanders, hydrophobia and bites of animals suspected of rabies. The physician in the first place, then the midwife, nurse, owner of the hotel, inn or hostelry, teacher, landlord and coroner, are responsible for returning notification of any cases of such diseases coming to their

knowledge. Any coercive measure is allowed by the law if the public health is endangered. Due compensation will be made for furniture or other property spoiled by disinfection, which is free of charge. Physicians at work during an epidemic are to receive a pension if they are incapacitated by the disease; their widows will be pensioned if death is caused thereby. The bill has no special provisions for vaccination, as a bill on that subject is to be brought in soon.

Pharmacology

THE INTERNATIONAL INSTITUTE.

Another Consumption Cure and Its Founder.

We have received from various sources inquiries relative to a Chicago concern known as the International Institute for the Treatment of Tuberculosis. Physicians have written saying that their patients have been approached by the agents of this "institute," and that the extravagance of the claims made for the "treatment" are equaled only by the exorbitance of the charges.

When we began to investigate the "International Institute" we found at the outset that its founder and ruling spirit and the "inventor" of its "treatment" was one Orlando Edgar Miller—an individual of whom we shall have something to say later.

THE TREATMENT.

In the booklet issued by the "Institute" we are informed that "this long looked for treatment and cure for tuberculosis is a combination of purely vegetable substances [which reminds one of the late lamented Lydia Pinkham] which, administered hypodermatically, produces three effects on the system, viz.: Sleep, Relaxation, Elimination."

And there we have it. Not, of course, that we know much more about it now than we did before, but we know as much as a physician's limited knowledge of drugs makes it safe for him to know. For in the same booklet the reason given for not divulging the identity of this marvelous medicament is that physicians are "unacquainted with the actions of one of the drugs which we use and which is of recent origin, and is probably not used for any purpose by one physician in a thousand." Therefore, to conserve the interest of the patient's health—and incidentally the "institute's" finances—the world is going to be kept in ignorance of this, the great and only cure for tuberculosis. However, "when a sufficient number of physicians have acknowledged the results obtained, then the formula and methods of administration will be given to the medical profession." Meantime, bring along your phthisical patients and Orlando Edgar Miller, Ph.D., late professor of eugenics and sanitary science, late "dope" curist, late rupture curist, late numerous other things, will cure them, almost while you wait—for a consideration.

Incidental to the "hypodermics" there is rest and forced feeding and it would indeed be strange if some tuberculous patients when put to bed and given an abundance of nourishing food did not feel improved. Add to this, also, the psychic stimulation produced by the wildly extravagant promises of health, and we find sufficient reasons to account for any testimonials that may be obtained from patients in the early stages of this or any other "treatment."

WHAT THE "TREATMENT" COSTS.

When a prospective patient writes for information regarding the "cure" and its application, he is told:

". . . it would be impossible for this scientific treatment to be given anywhere else than in our hospital here in Chicago, or our sanitarium in Wisconsin."

Of the expenses to be incurred he is informed:

"Our minimum charges are $25.00 per week as hospital expenses, and $250.00 as treatment fee. Of course, where cases are very seriously complicated, the price runs somewhat higher. Most persons in taking our treatment pay the $350.00 in advance. . ."

WHAT DOES IT PROMISE?

One may wonder from what class of patients this "Institute" will accept the minimum treatment-fee of $250. This question is answered in the pamphlet which is sent out to prospective victims:

"QUESTION: What kind of cases do you accept?"
"ANSWER: Any case with sufficient vitality to turn over in bed."

Evidently so long as the patient is not positively moribund, his money is acceptable. And what may the patient expect if he pays his money and takes the "treatment"?

"QUESTION: What class of patients may hope for recovery?"
"ANSWER: All may expect ultimate recovery excepting those who have serious complications below the diaphragm."

This "purely vegetable," "hypodermatic," "eliminative" treatment, therefore, ceases to be effective below the diaphragm. What such statements mean to the public—and what doubtless they are intended to mean—is, that any sufferer from laryngeal or pulmonary tuberculosis, no matter how near to death's door he may be, "may expect ultimate recovery" if he possesses money enough to take the O. E. Miller "treatment" and vitality enough "to turn over in bed."

THE INSTITUTE'S PERSONNEL.

The stationery of the International Institute has an imposing list of officers of the concern and of the members of its "medical department." In addition to having a Ph.D. (O. E. Miller) for president, it has an A.M. for treasurer, an LL.D. for secretary, while its counsel is no less a person than an ex-senator of the United States. As is the case with so many of these "institutes" the head of the concern is not a physician, and has, therefore, to hire men who are, to do his work. This, unfortunately, seems to have been easy of accomplishment, as we find the names of no fewer than seven physicians—four of Chicago, one of Milwaukee, and two of Indianapolis on the stationery as members of the "medical department"—to say nothing of an osteopath.

One of the Indianapolis members appears to have been drumming up trade for the "Institute," as we have received from physicians copies of a pamphlet which is being distributed, and whose title page reads as follows:

> THE TREATMENT OF TUBERCULOSIS.
>
> by
>
> JOHN T. SCOTT, M.D.
> INDIANAPOLIS, IND.
>
> Presented at the International Congress of Tuberculosis,
>
> WASHINGTON, D. C., OCTOBER, 1908.

Needless to say, the treatment referred to is that given by the International Institute. As for the paper being "Presented at the International Congress of [on?] Tuberculosis," the secretary-general of the congress informs us that the paper "was not on the program of the Congress and was not read in any of the sections. I have never seen this paper before."

That the concern intends to extend its operations is evidenced from the fact that the attempt has already been made. In the local newspaper report of the attempt to establish a "sanitarium" at Rome, Georgia, we read that the International Institute already has "a large sanitarium in Chicago," and that branches already "have been established in Wisconsin, Minnesota, Michigan and other localities are being selected."

O. E. MILLER AND HIS RECORD.

When any new treatment, for a well-nigh incurable disease, is advanced, physicians who are careful of their patient's safety and well-being first wish to know something about the individual responsible for it. Should this treatment be given to the world, not through the reputable channels of conservative medical journals, but by means of methods adopted by irregulars the world over, sensible physicians are still more insistent on examining the antecedents of those who originate it. Should such examination show that the "treatment" is essentially secret, that it is put on the market as a commercial proposition, and that it is originated by one who

has no claim to medical training, the medical profession is more than justified in looking on such a proposition with suspicion. Should it be found, moreover, that the individual fathering the project is a man who has devoted a large part of his life to such concerns as "rupture cures" and fake sanitariums, and has at various times been arrested and has served at least some time in a federal prison—should all these things come to light, any sensible physician would naturally and rightly assume the attitude usually credited to Missourians—Show me!

For these reasons we give our readers some information regarding the president and originator of the International Institute—O. E. Miller, Ph.D.—which was incidentally acquired in our investigations of the "institute" itself.

According to the Chicago *Tribune*, June 11, 1902, Miller has been grocer, lawyer, newspaper editor, president of a Y. M. C. A., school superintendent, proprietor of a "rupture cure," and president of a "dope" sanitarium. He is now president of the "consumption cure" institute. Mr. Miller's long suit is his "piety." Throughout all the vicissitudes of his checkered career, though he has with remarkable versatility jumped from a "rupture cured or no pay" business to curing drug addicts "in from 6 to 8 days," yet he has ever demonstrated the value of religion as a financial asset.

THE O. E. MILLER "RUPTURE CURE."

In the early '90's Miller was running a "rupture cure" concern in Denver. So successful was this "cure"—in relieving the ruptured of their money—that within six years Miller claims to have done a business of over twenty million dollars. Branches of the concern were to be found in nearly every large city in the United States.

While pursuing this delectable business Miller was president of the "Professional Men's Debating Society" of the Y. M. C. A.; he also organized a large bible class and was carrying on what was known as the Cooperative Bible Union.

MILLER GOES TO PRISON.

While thus engaged in saving souls and curing rupture, Miller was convicted as an accessory to the misapplication of national banking funds and was sentenced to ten years in the federal prison at Fort Leavenworth, Kansas. After serving nearly two years of the sentence he was released on bond on the order of the Circuit Court of Appeals; the case then seems to have been dropped. Even in prison Miller's piety had to find expression and he established a Sunday school of which he was the leader and in addition he had charge of the music in the chapel on Sundays.

MILLER'S DYSPEPSIA "CURE" AND THE "ST. LUKE'S SOCIETY."

In 1898 O. E. Miller came to Chicago and, according to the *Tribune*, exploited a "medicated sand" treatment for stomach trouble and as a "sure cure for dyspepsia." In the meantime, he had, to use his own words, "come into possession of a very wonderful formula for the treatment of morphin, opium, tobacco and liquor habits." This was too good an opportunity to miss and he at once organized "a religious and philanthropic movement" known as the St. Luke's Society. This concern advertised that the patient would be put "into a normal condition" in "from six to eight days, in all cases of drug addictions where tobacco is not used. . . . Some forms of nervous affections require two weeks' time."

While a "philanthropic" movement, it did not give sufficient indications of being a charitable institution to warrant the Chicago Department of Health granting a license. The business was evidently a paying one, however, for Miller kept moving into more expensive and commodious quarters until finally he rented the old Hotel Woodruff as a "sanitarium." Then, when he had 150 persons in the building, came a fire in which thirteen inmates perished.

MILLER'S "UNIVERSITY AND SANITARIUM."

Miller's next venture was a combination "university" and "sanitarium," which he floated at Glen Ellyn, a suburb of Chicago. This institution was known as the "Ruskin University," though from the number of Millers in the published list of faculty members and officers, "Miller University" would have been more appropriate.

GEORGE MCA. MILLER, President; Ethics and Physiology.
ADALINE D. MILLER, Vice-President; English and Literature.
ORLANDO E. MILLER, General Secretary; Eugenics and Sanitary Science.
HAMILTON J. MILLER, Treasurer.
ADMER D. MILLER, Mathematics.
ZOA L. MILLER, Art.
AURORA L. MILLER, Oratory.

Whether any or all of these numerous Millers were blood relations to Orlando E., or whether the combination was a mere nomenclatorial coincidence, we can not say.

AN ALL-EMBRACING COLLEGE OF MEDICINE.

The "university" very naturally had a college of medicine, and there was nothing narrow or hide-bound about it. According to the prospectus issued at the time:

"Every student in the medical department of Ruskin University will receive instruction in *every known process of healing*, whether it goes under the name Regular, Irregular, Allopathic, Eclectic, Homeopathic, Physio-Medical, Osteopathic, Hydropathic, or any other title." [Italics ours.—Ed.]

But in spite of all the inducements held out to students, the "university" was not a financial success and had it not been for its "sanitarium" annex would have gone out of existence even sooner than it did. At the "Ruskin Sanitarium" were "drug addicts, nervous cases, rheumatic and kidney troubles successfully treated." The advertisements of this "sanitarium" also call attention to "The Famous Glen Ellyn Mineral Springs and Mud Baths." Inquiries fail to disclose the whereabout of either the famous springs or the equally noted mud baths. There are springs at Glen Ellyn, it is true, and as they are not of distilled water, there is doubtless mineral matter in them—hence, by poetic, or advertisers' license, mineral springs, if you please. There are, too, occasional swampy spots where, in wet weather, a person willing to risk arrest for indecent exposure, might take a mud bath—but the people of Glen Ellyn have never heard of any one taking that risk. An unfeeling town council finally got after Miller, and, as the papers stated at the time, fined him $100 and gave him ten days in which to leave the town.

THE INTERNATIONAL INSTITUTE.

Miller says: "Since severing my connection with the Ruskin movement, I have been engaged in one way or another in trying to get my treatment for tuberculosis to the attention of the medical profession." The "International Institute" was the result, of which Orlando Edgar Miller, Ph.D., is the president and William Bond Forsyth—of whom more later—vice-president and business manager.

THE CASE OF RAYMOND FORSYTH.

If this matter were being published simply and solely for physicians it would be needless to say more about it. The medical profession has seen so many much-vaunted "consumption cures" rise like a rocket and come down like a stick, that it is able to assign the "International Institute" to its proper place in the gallery of fakes. We are confronted with the fact, however, that the paid "cappers" and "steerers" for this concern are daily inveigling helpless but hopeful consumptives into taking its "treatment," and we are continually receiving letters from physicians asking what they shall tell their patients who enquire about this "institute." We are, therefore, investigating the cases of some of the patients who have received "treatment" at the hands of the "International Institute."

One case to which the concern gives such prominence as to publish it broadcast in pamphlet form as a "Case Report," is that of Raymond Forsyth. This young man was the son of the business manager of the concern, and the following information is given in the "Case Report" pamphlet:

"Raymond Forsyth . . . had been examined by Dr. Frank Billings, Dr. Babcock and Dr. N. S. Davis, Jr., about a year ago. They all agreed he had a well-defined case of tuberculosis. . . ."

The young man was put on the O. E. Miller "treatment" with most marvelous (reported) results. The report closes as follows:

". . . has since gained 15 pounds of flesh; is getting stronger daily; walks and exercises by the hour.

"His sputum has been examined weekly since his return and there have been found only slight traces of tubercle bacilli, which are gradually disappearing."

Such is the information we get from the pamphlet. As a result of our investigations we could take up in detail various claims and statements and show their cruel mendacity, but probably the following reproduction from the Sidney (Ohio) *Daily News* of Dec. 2, 1908 will tell the tragic story more eloquently than anything we could say:

SAD DEATH THIS MORNING

RAYMOND FORSYTHE, PROMINENT YOUNG MAN, PASSED AWAY AT HOME OF HIS PARENTS

Had Been Sick for the Past Two Years. Was a Graduate of the Sidney Schools.

After an extended illness covering a period of about two years, Raymond Forsythe, one of Sidney's best known young men, died at the home of his parents, Mr. and Mrs. W. B. Forsythe, on West avenue, about 8:30 o'clock Wednesday morning of consumption.

The deceased was born in Sidney

As we have said, this young man's father, W. B. Forsyth, is vice-president, business manager, and, we understand, one of the principal stockholders in the "Institute." Yet the misfortune of a member of his own family is used as capital for "boosting" the business in which he is financially interested. Forsyth, senior, from all we can learn, has, like his associate Miller, been connected with more than one more or less shady concern. In his home town—Sidney, Ohio—he seems to be considered a "slick" individual who would not be deterred from going into any business because it happened to be only barely within the pale of the law. If we are correctly informed, he was some years ago mixed up in a concern known as the Bohemian Oats and Red Line Wheat Co., whose operations were such as to become the subject of enquiry by the courts. Forsyth also, it is said, exploited a wonderful "corn cure" for some years, later going into the oxygen business. Says a correspondent, "land schemes, irrigation schemes, patent car-coupler schemes and possibly others of greater or less notoriety can be charged up to this man, who thus makes capital out of his son's misfortune."

TWO MORE DEATHS.

Another case which was inquired into was that of a married woman from a small town in Illinois. The family physician, to whom we wrote, replied (Sept. 18, 1908) in part as follows, concerning the patient:

"She is not there on my advice, but at the earnest solicitation of Mrs. ————, whose husband had tuberculosis and was there doing so nicely, improving every day, *but who was consigned to the grave yesterday*—cured, I presume! . . . I am sure she will be in the Sanitarium Above within six months."

From a later letter (Nov. 26, 1908):

"She [the patient] was brought home October 24, arriving here about 2 a. m. and died in her home about 11:45 a. m. of the same date."

Other cases are under investigation and but for the urgent need of giving physicians such facts as we have already at hand publication of this matter might have been further postponed. We shall publish in the future the results of such investigations if a continued pernicious activity of this concern makes it necessary.

Correspondence

The Viscosity of the Blood.

COLUMBIA UNIVERSITY, NEW YORK, Nov. 24, 1908.

To the Editor:—In THE JOURNAL, November 12, Dr. G. W. McCaskey has published a paper on the viscosity of the blood, taking especially into account its value in clinical medicine. I judge that Dr. McCaskey has not consulted a number of physiologic papers which have been published in recent years, and which, to a considerable degree, forestall his article.

Making no reference to the early and late work on the viscosity by Hürthle and myself, Dr. McCaskey has the kindness to refer to me in a footnote as follows:

"The following references may also be consulted: Burton-Opitz: *Am. Med.*, Phila., 1900, vii, 111; *Jour. Exper. Med.*, 1906, viii, 59, 240; *Abstr. Am. Med.*, new series, i, 42; *Arch. f. d. ges. Physiol.*, cxii, 189." I am grateful to Dr. McCaskey for bringing my name so prominently before the readers of THE JOURNAL, but as I do not desire credit rightly belonging to others, I beg to state that I have not used *American Medicine* as a medium for publication.

Furthermore, in order to show how valuable the viscosity of the blood has appeared to a physiologist, and how widely many of the facts given in Dr. McCaskey's paper have been circulated prior to the publication of his article, I may be permitted to add the following references: Burton-Opitz: *Arch. f. d. ges. Physiol.*, 1900, lxxxii, 447-463 and 464-473; ibid, 1906, cxii, 1-5; ibid., 1907, cxix, 359-372; *Jour. Exper. Med.*, 1906, viii; ibid, 1906, viii, 240-243; *Zentralbl. f. Physiol.*, 1904, xviii, No. 16, *Jour. Physiol.*, 1904, xxxii, No. 1; ibid., 1905, xxxii, Nos. 5 and 6; *Am. Jour. Physiol.*, 1902, vii, 243-259.

I also desire to call attention to the last volume of the Proceedings of the Society for Experimental Biology and Medicine, where will be found described a method for the determination of the viscosity, which has many points in common with Dr. McCaskey's, in spite of the fact that the said method has gained priority by publication.

I submit that the above references will show that the largest number of Dr. McCaskey's "conclusions" have been, to say the least, anticipated by others.

R. BURTON-OPITZ.

A proof of the above letter was submitted to Dr. McCaskey, who replies as follows:

FORT WAYNE, IND., Nov. 30, 1908.

To the Editor:—After re-examining my article on the viscosity of the blood, since reading the letter of Prof. Burton-Opitz, kindly submitted by you, I hasten to say that I have not given due credit to the work of that able investigator. It is scarcely fair on his part, however, to say that I do not refer to the early work of Hürthle, the fundamental character of which is distinctly mentioned on pages 1563 and 1564. The intimation that I am not familiar with the literature is also unjust. The abstracts alone which furnish a part of the literary basis of my paper occupy nearly fifty type written pages, legal cap size, and comprise nearly the entire literature of the subject. There was appended to these abstracts a bibliography which was as complete up to about April, 1908, as a capable abstractor, himself a physician, could make it from the material accessible in the surgeon general's office at Washington. It was manifestly impossible to utilize in my

article more than a small part of this mass of material. The article was prepared by a clinician for clinicians, and I simply selected without much reference to the personality of the investigators such facts as would enable me to best present the subject for the purpose intended. I have very full abstracts of several of Professor Burton-Opitz's papers, more than one fact which he helped to establish being woven into the discussion without the acknowledgment which could properly have been given, and which should not have been entirely omitted. This was simply an unfortunate oversight, for which I am glad to have the opportunity to make amends, but which in no way affects the importance of the facts or the validity of the conclusions. There are other investigators who probably should have received more specific notice, although I particularly regret the present instance. In canvassing the literature alleged facts were carefully collated, and brought in touch with my own experience and observation, with the intention, of course, so far as practical in a brief paper, of crediting them to their source.

After all, however, the real questions of actual criticism, of this or any other paper, which most deeply concern the profession are the reliability of the facts, and the soundness of the conclusions set forth by the writer as fairly representing the present status of the subject. Individual facts, when poured into the common treasury, become common property and investigators must not expect clinical workers to label each fact with its paternity. This would burden clinical literature to an impossible degree.

Professor Burton-Opitz says that he has not used "*American Medicine* as a medium for publication." I did not say that he did. I only cited the location of the reference. With regard to one of the references to *American Medicine*, namely, the one to volume vii, page 111 (the other one is not at this moment accessible), the following are the facts: It is in the form of a special article reporting the Proceedings of the Society for Experimental Biology and Medicine. The article was furnished by William J. Gies, the secretary of the society, who says that the abstracts which he furnished were written by the authors themselves. If there is any issue here, I think it lies between Professor Burton-Opitz and the secretary of the Society for Experimental Biology and Medicine, and I will leave it to the readers of THE JOURNAL to decide whether such a bibliographic reference is or is not entirely proper, and also to form their own judgment of this sort of criticism.

His statement that the "largest number of my 'conclusions' have been, to say the least, anticipated by others" does not disturb me in the least. Among other things, it indicates that they are well founded. They might just as well have been labeled a summary, as they are nearly all of them based on the data contained in the article to which they are attached, and certainly, so far as I can see, do not contain even a suggestion of the absurd claim that they are based on individual research or investigation. They simply state in brief epitome what is my own judgment of the entire subject, based on a decidedly extensive and very nearly exhaustive review of the literature, and on clinical observation.

In "conclusion," I venture to express the hope that Professor Burton-Optiz, along with other original investigators, will continue to broaden and deepen our knowledge of scientific facts. For my part I will continue to plod modestly along the thorny clinical road on which every gleam of light from experimental science is more than welcome, and will be utilized to the fullest extent in solving the problems of practical medicine.

G. W. MCCASKEY.

Dr. John H. Rauch—A Pioneer in the Fight Against Quackery.

GALESBURG, ILL., Dec. 5, 1908.

To the Editor:—To one who knew the late Dr. John H. Rauch, it is gratifying to read the appreciative letter of Dr. George Homan of St. Louis, in THE JOURNAL, December 5, regarding the work of Dr. Rauch while secretary of the Illinois State Board of Health. The committee on necrology of the Illinois State Medical Society for 1894 reports that Dr. John H. Rauch died at his birthplace, Lebanon, Pa., March 24, 1894. Whether or not he was buried there is not stated.

Dr. Rauch was the unconscious product of the demand for greater things in medicine. With clear vision he saw that the great thing, as well as the first thing, was the preliminary education of the individual seeking to practice medicine in Illinois. I well remember that when I entered this state from Minnesota to practice my profession, I was considerably worried to be told that I could not obtain a permit to practice until I was examined, not only from a literary, but from the medical point of view. After passing the literary examination before the late Newton Bateman, then president of Knox College, and also a member of the State Board of Health, I was able to secure a permit to practice by presenting proofs that I had taken a four-year course in one medical school before graduation. Before this time, I had never heard of such a procedure as a requisite to practice medicine in any state.

This personal experience was not coincident with the beginning of Dr. Rauch's greatest work, the promotion of higher medical education; but it was evidence of the work which he had already well started on the way, at least ten years before. It is said that when the Medical Practice Act of 1877 went into effect in Illinois, "about 3,600 non-graduates were practicing medicine in the state," and of these about 1,400 left the state or quit practice within a year of the passage of the law. It was said of Dr. Rauch at that time: "To him more than to any one else, indeed, more than to all others, are due the medical practice acts of other states, weeding out quackery, and the extended terms of medical colleges from three to four years, requiring additional study preliminary to conferring the medical degree." (Quoted from the *Sanitarian.*)

The promotion of higher medical education was but a small part of Dr. Rauch's activities. He was by instinct and training a scientist. He began this training as a private pupil of Prof. Louis Agassiz of Harvard College, and lived for some time in his family. It would be a pleasure to me, did space permit, to repeat here what the earlier chroniclers of this man's strong and efficient life had to say of him. These things influenced me and made me to know, as it did every other man and woman practicing the healing art in this state, that there was some one at the head of our State Board of Health who was potent. We felt the intensity of his strength. We knew that he had force and vigor and power, as well as the energy of achievement.

Dr. Rauch had faults; those of us who knew him can relate them. But back of some of his worst faults could be seen the cunning of the diplomat, whose consuming desire was the real advancement of his cause. Dr. Rauch was greater than his faults. He created. He had a mind and a brain, and above all a spirit that is still working among us.

He taught legislators how to bend the altruism of the medical profession to the public good. His professional life had in it the same essence that will make the names of Tyndall, Pasteur, Virchow, Koch and Lister immortal. It is no disparagement of those who have taken up his work since he left it in their care, that none has come who did more than work along the lines that he laid out. Dr. Rauch was a scientific sanitarian. In addition, he was a politician. How much of this latter training is now needed in our health boards is a question; but one thing is certain, the day has gone by when the state can afford to get along without a trained sanitarian as a part of its official health family.

All of which goes to show that, as pointed out by Dr. Homan, Illinois has not yet, in recognition of Dr. Rauch, her adopted son, done the *amende honorable*. At the present time, when the profession and the public have been taught the value of the work which he initiated, it would seem to be an opportune time to take up the question, as has been suggested, of putting in some permanent form the record of his great achievements. Just what form this memorial should take can well be left to the Illinois State Medical Society, of which he was an honorable and conspicuous member.

J. F. PERCY.

Lacteal Secretion in the Male.

CHICAGO, Nov. 30, 1908.

To the Editor:—The remarks of Dr. Gellhorn, in his excellent article in THE JOURNAL, November 28, on "Abnormal Mammary Secretion," etc., *in re* the rarity of lacteal secretion in the male, recalls to my mind a case that may be of interest: A youth, 17 years of age, serving sentence for highway robbery, came under my care during my term of service at the Penitentiary Hospital, Blackwell's Island, N. Y. He was suffering from some minor pulmonary trouble—bronchitis, as I remember it. He objected to being stripped for examination. When this was done, it was found that his sensitiveness was due to his humiliation over the possession of two well-developed mammæ, of about the size of the average virginal breast at puberty. From these breasts I freely expressed lacteal secretion in moderate quantity and of a quality which, as shown by chemical and microscopic examination, was fully equal to the average standard of female lacteal secretion. According to the history, the condition had existed for about a year. The cause was unknown and the subject otherwise normal, the sexual apparatus being well developed.

As is true of most such institutional cases, the subject was lost sight of after he had served his term of punishment. Interne like, I regarded the case as a curio and did not recognize its scientific value, hence did not at that time report it. I have a hazy notion that I afterward did so, but if so, the journal in which it was reported is beyond my recollection.

G. FRANK LYDSTON.

Sea-Water in Tuberculosis and Other Diseases.

VALDEZ, ALASKA, Nov. 20, 1908.

To the Editor:—For the past two years I have been experimenting with sea-water as a remedial agent in tuberculosis, anemia, chlorosis and dyspepsia, and the result has been so gratifying that I feel constrained to publish the facts. I have had over twelve cases of pulmonary tuberculosis; four of the patients were bed-ridden. One patient gained 35 pounds in three months, another 16 pounds in one month, and after the first quart of sea-water ceased to have night sweats. Another patient gained 12 pounds in six weeks. All these patients have retained their weight, are apparently well, and have normal temperature. I have had the same experience in cases of anemia, chlorosis and some forms of dyspepsia, and I urge that a thorough test be made of sea-water in these diseases. My method is to have the patients drink from 1 to 3 pints of sea-water each day, and I have found that after taking it a day or two, the patients not only do not object to it, but seem to like it. Dr. Charles, in the *British Medical Journal*, reports some very interesting experiments with sea-water. He advocates diluting it with natural potable water, in the proportion of two parts to five; but I have found that there is very little objection to drinking it in its natural state. It is impossible, in the cities remote from the sea, to obtain the fresh sea-water, and I have had some carbonated, which renders it more palatable and equally efficacious.

E. C. DALTON.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

JOURNALS ON OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

To the Editor:—Please give the names of the best and leading journals on ophthalmology, otology and laryngology.

J. M. GARBER.

ANSWER.—The following are representative journals:

Annals of Otology, Rhinology and Laryngology, Mermod-Jaccard Bldg., St. Louis, $4 a year.

Annals of Ophthalmology, Mermod-Jaccard Bldg., St. Louis, $4 a year; with *Annals of Otology, Rhinology and Laryngology*, $7 a year.

Laryngoscope, 3858 Westminster Pl., St. Louis, $3 a year.

Ophthalmic Record, 72 Madison St., Chicago, $4.50 a year.

Journal of Ophthalmology and Oto-Laryngology, 100 State St., Chicago, $2 a year.

Ophthalmology, 105 Grand Ave., Milwaukee, $5 a year.

Journal of Laryngology, Rhinology and Otology, 21 St. Thomas St., London, S.E., England, $5 a year, including postage.

Archives of Ophthalmology. (Am. ed.), New Rochelle, N. Y., bi-monthly, $4.50 a year.

Archives of Otology (Am. ed.), New Rochelle, N. Y., bi-monthly, $4.50 a year.

The two last named are the American editions of the German journals of the same name.

HYDRARGYRUM SUCCINIDUM.

EAGLE GROVE, IOWA, Dec. 2, 1908.

To the Editor:—In the article on "Treatment of Tuberculosis by Mercury" in THE JOURNAL, Nov. 28, 1908, I come on this chemical product in closing the article. I do not ask, what is this, because I presume it may be possible to be amber mercury in such a way as to make it either a succinimid or a succinamid, an ammonia derivative of succinic acid. But is this salt official? This preparation is not mentioned in the U. S. Pharmacopeia, the Dispensatory, the National Formulary or New and Nonofficial Remedies. Why then should this rare chemical salt be the one selected in the very long list of mercurials available? That tuberculosis and syphilis exhibit striking pathologic similarities and probably yield to the same treatment is a plausible theory, but why the succinimid should be used in preference to other more familiar mercurial salts seem strange. This salt is certainly not only not to be found in text-books, but I doubt if one pharmacist in a thousand carries it or has ever heard of it. Why should one firm or institute have a corner on something that ought to be available and purchasable anywhere? In what does this differ from the commercial spirit that sells acetanilid under the names of antikamnia and antifebrin, or that tries to monopolize the tuberculosis market with Lloyd's Aicsol or Robert's Hydrocine or reduce the corpulent with thyroid extract under title of marmola, rengo and other strange names? If the succinimid of mercury cures tuberculosis, does not the protoiodid, the biniodid, the mild or the strong chlorid or even the old fashioned unguentum hydrargyri? But if the succinimid, on the contrary, is the only salt of mercury that cures tuberculosis, then by all means let us get it on the official list at the next revision of the U. S. P.

H. K. HENRIKSEN, M.D.

ANSWER.—Mercury succinimid is a definite chemical substance. It is the mercury salt of the imid of succinic acid. The Council on Pharmacy and Chemistry has accepted mercury succinimid as a non-proprietary substance for inclusion with the next edition of New and Nonofficial Remedies, which will appear about January 1. There has been little if any call for the drug in the American market, consequently it may not be kept in stock by distributors or pharmacists.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Dec. 5, 1908:

Kennedy, J. M., major, ordered to report Dec. 1, 1908, for duty as acting chief surgeon, Department of California.

Merse, C. F., capt., relieved from duty at Fort Howard, Md., and directed to proceed to Fort Huachuca, Ariz., to accompany troops to the Island of Oahu, H. T., for duty there.

Williams, A. W., capt., granted leave of absence for 3 months.

O'Reilly, R. M., brig.-general; Russell, Frederick F., capt., and Vaughan, V. C., Councilman, W. T., Musser, J. H., Lambert, Alex., Flexner, Simon, Thayer, W. S., 1st lieuts., M. R. C., appointed a board to meet at Washington, Dec. 7, 1908, to investigate the question of immunizing the Regular, and, in case of war, the Volunteer Army against typhoid fever.

Trotter-Tyler, G., M. R. C., ordered from Fort Adams, R. I., to Fort Revere, Mass., for temporary duty.

Stephenson, A. V., M. R. C., honorably discharged from the service of the U. S.

Enders, W. J., M. R. C., granted leave of absence for 10 days.

Kelly, J. P., M. R. C., relieved from duty at Fort Miley, Cal., and ordered to duty at the camp to be established on the Island of Oahu, H. T.

Vaughan, V. C., Councilman, W. T., Musser, J. H., Lambert, Alex., Flexner, Simon, Thayer, W. S., M. R. C., ordered to active duty in the service of the U. S.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Dec. 5, 1908:

Curtis, E. E., asst.-surgeon, ordered to the *Chattanooga*.

Olson, G. M., asst.-surgeon, ordered to the *Culgoa*.

Stokes, C. F., surgeon, detached from command of the *Relief* and ordered home.

Spear, R., surgeon, detached from the *Relief* and ordered to the *Rhode Island*.

Dessez, P. T., P. A. surgeon, detached from duty at the naval hospital, Mare Island, Cal., December 31, and ordered to the Pacific Fleet, sailing from San Francisco, about January 5.

Dunbar, A. W., surgeon, ordered to command the *Relief*.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Dec. 2, 1908:

Cobb, J. O., surgeon, granted 15 days' leave of absence from Dec. 22, 1908.

Stoner, J. B., surgeon, directed to proceed to Louisville, Ky., Cairo, Ill., and Memphis, Tenn., on special temporary duty, Nov. 17, 1908.

Cofer, L. E., P. A. surgeon, directed to report to Director Hygienic Laboratory for temporary duty, Nov. 27, 1908.

Cofer, L. E., P. A. surgeon, granted 4 days' leave of absence from Dec. 1, 1908, under Paragraph 191, Service Regulations.

Billings, W. C., P. A. surgeon, bureau orders of Nov. 3, 1908, detailing him for duty on the Revenue Cutter *Itasca*, amended, detailing him for duty at the Revenue Cutter School of Instruction, Arundel Cove, Md., Nov. 26, 1908.

Corput, G. M., P. A. surgeon, granted 10 days' leave of absence from Dec. 8, 1908.

Foster, Albert D., P. A. surgeon, relieved from duty on the Revenue Cutter *Thetis;* directed to proceed to Angel Island, Cal., and report to commanding officer, Nov. 26, 1908.

Lanza, A. J., asst.-surgeon, relieved from duty on the Revenue Cutter *Rush;* directed to report to commanding officer of the Revenue Cutter *McCulloch*, for duty.

Oleson, Robert, asst.-surgeon, on being relieved by Assistant Surgeon A. J. Lanza, directed to proceed to Marine-Hospital, San Francisco, and report to commanding officer for temporary duty.

Duke, B. F., acting asst.-surgeon, granted 23 days' leave of absence from Nov. 23, 1908.

Gustetter, A. L., acting asst.-surgeon, granted 6 days' extension of leave of absence from Nov. 26, 1908.

Thompson, W. R. P., acting asst.-surgeon, leave of absence for 30 days from Nov. 23, 1908, granted Nov. 11, 1908, revoked Nov. 27, 1908.

BOARD CONVENED.

Board of medical officers convened to meet at the Marine-Hospital, Baltimore, Dec. 2, 1908, for the re-examination of a cadet of the U. S. Revenue Cutter Service. Detail for the board: Surgeon W. P. McIntosh, chairman; P. A. Surgeon J. W. Schereschewsky, recorder.

CASUALTY.

Miller, W. W., asst.-surgeon, died in Washington, D. C., Nov. 24, 1908.

Health Reports.

The following cases of small pox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service during the week ended Dec. 4, 1908:

SMALLPOX—UNITED STATES.

California: San Francisco, Nov. 7-14, 8 cases.
Kansas: Topeka, Nov. 7-14, 7 cases.
Ohio: Cincinnati, Nov. 13-20, 2 cases.
Tennessee: Nashville, Nov. 14-21, 1 case.
Texas: Encinal, Oct. 22-Nov. 26, 49 cases.
Washington: Spokane, Oct. 7-14, 1 case; Tacoma, Oct. 24-Nov. 1, 4 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Oct. 3-10, 4 cases.
Algeria: Algiers, Oct. 1-31, 22 deaths.
Arabia: Aden, Oct. 19-Nov. 2, 19 deaths.
Brazil: Bahia, Sept. 1-30, 174 cases, 6 deaths.
Canada: Halifax, Nov. 7-14, 4 cases; Victoria, 1 case.
Ceylon: Colombo, Oct. 3-17, 56 cases, 11 deaths.
Egypt: Cairo, Oct. 21-28, 7 cases, 1 death.
France: Paris, Oct. 24-Nov. 7, 4 cases.
India: Bombay, Oct. 20-27, 2 deaths; Calcutta, Sept. 26-Oct. 10, 3 deaths.
Italy: General, Nov. 1-8, 4 cases; Naples, 12 cases.
Russia: Odessa, Sept. 26-Oct. 3, 2 cases; Warsaw, Oct. 10-17, 5 deaths.
Spain: Barcelona, Oct. 31-Nov. 7, 2 deaths.
Turkey: Constantinople, Nov. 1-8, 7 deaths.

YELLOW FEVER.

Brazil: Bahia, Sept. 1-30, 1 death; Para, Oct. 17-24, 3 cases, 3 deaths.
Martinique: Port de France, Oct. 24-31, 1 case.
Mexico: Campeche, Nov. 7-14, 1 case; Merida, 5 cases, 3 deaths; Vera Cruz, 2 cases, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Oct. 3-10, 55 cases, 14 deaths; Provinces, 1,276 cases, 738 deaths.

CHOLERA—FOREIGN.

China: Hankau, Oct. 27, present.
India: Bombay, Oct. 20-27, 1 death; Calcutta, Sept. 26-Oct. 10, 20 deaths; Madras, Oct. 17-23, 7 deaths.
Russia: General, to Oct. 24, 25,509 cases, 11,962 deaths; St. Petersburg, Sept. 26-Oct. 24, 7,574 cases, 3,121 deaths.
Straits Settlements: Singapore, Oct. 10-17, 1 case.
Japan: Moji, to Oct. 28, 2 cases; Obama, 1 case; Sasebo, to Oct. 2, 2 cases; Tsushima, 7 cases.

PLAGUE.

Brazil: Bahia, Sept. 1-30, 8 deaths; Para, Oct. 10-17, 1 case, 1 death.
Chile: Iquique, Oct. 23-26, 3 cases; present.
India: General, Oct. 10-17, 3,717 cases, 2,649 deaths; Bombay, Oct. 20-27, 12 deaths; Calcutta, Sept. 26-Oct. 10, 13 deaths; Rangoon, Oct. 10-17, 6 deaths.
Peru: General, Oct. 15-28, 38 cases, 25 deaths; Lima, 7 cases, 1 death.

Association News

NEW MEMBERS.

List of new members of the American Medical Association for the month of November, 1908:

ALABAMA.

Mason, E. M., Montgomery.
Street, T. H., Alexander City.

ARKANSAS.

Murchison, A. J., England.
Sheriff, J. P., Supply.

CALIFORNIA.

Houston, Albert, San Francisco.
Holt, Wm. L., Santa Barbara.
Hurst, J. H., Montecito.
Irwin, W. H., Oakland.
Kruell, F. J., Los Angeles.
Lewis, Will J., Santa Yuez.
Olmsted, R. C., Pasadena.

COLORADO.

Emery, E. W., Denver.
Hill, C. A., Trinidad.
Klinkowstroem, E. V., Denver.
Perkins, J. M., Denver.

CONNECTICUT.

Chedel, C. B., Kensington.

DELAWARE.

Dwight, E. S., Smyrna.

IDAHO.

Judd, H. H., Wallace.

ILLINOIS.

Beck, H. E., Moline.
Coquillette, W. E., Byron.
Ecke, A. C., Chicago.
Frantz, D. W., Metcalf.
Hoffmann, F. F., Chicago.
Miller, Ira M., Chicago.
Koessler, K. K., Chicago.
Pagano, Raffaele, Chicago.
Pease, L. W., Chicago.
Pfeifer, J. P., Chicago.
Wrightsman, Edward C., Chicago.

INDIANA.

Burroughs, J. P., Westport.
DuBois, C. C., Warsaw.
Dutton, H. H., Paragon.
Fair, H. D., Muncie.
Hall, Silas, Vincennes.
Harrod, N. G., Tampico.
Lockwood, R. L., Elkhart.
Mathews, W. R., Madison.
Magers, F. M., Churubusco.
Morr, J. W., Albion.
Nixon, John, Farmland.
Norris, A. A., Elkhart.
Osbon, G. G., Jasonville.
Parker, J. J., Merom.
Shoemaker, G. L., North Manchester.
Stamets, Z. H., Auburn.
Stephenson, T. J., Lapel.
Sweet, E. M., Martinsville.
Wells, M. M., Fairland.
Yarling, J. E., Peru.

IOWA.

Clarke, F. S., Lemars.

KANSAS.

Lidikay, C. J., Kansas City.
Vallette, H. B., Jewell.

KENTUCKY.

Ford, E. W., Hartford.
Helm, T. O., Auburn.
Marks, S. B., Lexington.
Quaife, C. E., Louisville.
Wright, C. A., Cayce.

MARYLAND.

Brülle, Herman, Baltimore.
Hebb, A., Baltimore.
Naylor, H. A., Pikesville.

MASSACHUSETTS.

Galvin, A. H., Salem.
Hatch, Royal, Wellesley.
Oliver, E. L., Boston.

MICHIGAN.

Anderson, J. W., Royal Oak.
Baker, Norman I., Milford.
Belanger, J. A., Grosse Pointe.
Clemes, W. T., Blissfield.
Doran, W. E., Colon.
Ferguson, J. A., Rudyard.
Francis, A. M., Port Austin.
Frankhauser, Silas, Hillsdale.
Greenmyer, J. D., Niles.
Hanna, W. B., Mass.
Husband, F. H., Sault Ste. Marie.
Jones, A. J., Painesdale.
McBurney, W. W., Stambaugh.
McVicar, N. D., Lum.
Newcomb, S. O., Ida.
Nitterauer, J. S., Ontonagon.
Nottingham, Bert, Lansing.
Osborne, D. P., Kalamazoo.
Quick, J. B., Kearsage.
Rhines, James, Jr., Mohawk.
Simenton, George, Marlette.
Sieneau, Talbert, Port Huron.

MINNESOTA.

Beachler, G. F., Minneapolis.
Franzen, H. G., Minneapolis.
Guilford, H. M., Minneapolis.
Haynes, F. E., Minneapolis.
Landenberger, John, New Prague.
Monahan, J. A., Minneapolis.
Phillips, W. H., Jordan.
Pratt, F. J., Jr., Minneapolis.
Silvertsen, Ivar, Minneapolis.
Wilcox, M. R., Minneapolis.
Williams, C. W., Minneapolis.

MISSOURI.

Campbell, O. H., St. Louis.
Chalkley, A. J., Lexington.
Cope, J. O., Lexington.
Laurenzana, D. A., Kansas City.
Lewis, E. A., Rock Port.
Owens, J. H., Sweet Springs.
Wilson, Roy E., LaBelle.

MONTANA.

Cuttle, Frederick, Hunters Hot Springs.

NEBRASKA.

Barnes, E. M., Plainview.
Conklin, R. E., Alma.
Martyn, D. T., Columbus.
Smith, H. C., Franklin.

NEW JERSEY.

DuBois, F. E., Plainfield.

NEW MEXICO.

Parr, H. F., Carlsbad.

NEW YORK.

Amster, J. L., New York City.
Bailey, H. C., New York City.
Bickford, J. W., Lockport.
Biggar, H. R., Glen.
Chase, G. T., New York City.
Cleland, F. A., New York City.
Fischlowitz, G. G., New York City.
Foster, M. L., New York City.
Gordon, C. A., Brooklyn.
Gregory, Alice, New York City.
Hengerer, Louis, Hamburg.
Jackson, G. B., Angelica.
Knight, C. C., Peekskill.
Langmann, G. A., New York City.
Lathrope, G. H., Binghamton.
Lawrence, R. A., Albany.
MacKenzie, D. A., New York City.
Merwin, E. B., Manlius.
Norris, H. S., New York City.
Patterson, C. J., New York City.
Remer, John, New York City.
Scofield, C. E., Brooklyn.
Squire, A. P., Rotterdam June.
Stone, Thomas, New York City.
Thomas, L. A., Painted Post.
Titus, H. W., New Rochelle.
White, H. D., Rome.
Whitbeck, S. V., Hudson.
Wilcox, D. G., Buffalo.
Wiseman, J. R., Syracuse.

NORTH CAROLINA.

Howe, W. B. W., Hendersonville.

OHIO.

Baird, R. J., Creston.
Buel, J. J., Cleveland.
Clingaw, T. O., Niles.
Gardner, G. R., Ashville.
Haris, E. C., Springfield.
Hitchcock, S. A., Lima.
Landor, T. H., Canton.
Lang, M. W., Ridgeville.
Lietze, Bertha C., Cincinnati.
McClenahan, C. W., Collingwood

Miller, Louis, Toledo.
Millette, J. W., Dayton.
Murphy, J. J., Lima.
Norton, F. B., Cleveland.
Speer, A. T., Newark.
Tenney, C. F., Toledo.
Ward, C. S., Warren.

OKLAHOMA.

Baker, R. L., Wynnewood.
Huddle, W. I., Lamont.
Powell, J. P., Olney.
Reed, O. D., Frederick.
Ruhl, N. E., Piedmont.
Shippey, R. H., Chickasha.
Troutt, L. W., Afton.
Vick, J. T., Fort Towson.

PENNSYLVANIA.

Gilliland, J. F., Beaver Falls.
Ridgway, R. F. L., Harrisburg.
Rentschler, H. F., Reading.

TEXAS.

Clutter, B. F., El Paso.
Hickey, M. L., Chalk Mountain.
Johnson, I. F., Gatesville.
Martin, R. G., La Verina.
Ponton, A. R., Copperas Cove.
Winn, Wm. A., Tuscola.

VERMONT.

Leonard, L. L., Barre.

VIRGINIA.

Richardson, A. S., Hurley.
Woolwine, W. D., Pearisburg.

WASHINGTON.

Campbell, R. H., Little Falls.
Harrington, W. W., Spokane.
Hotchkiss, W. B., Chehalis.

WEST VIRGINIA.

Boso, Fred M., Henry.
Schoolfield, E. R., Wevaco.
Swann, P. H., Huntington.

WISCONSIN.

Lewis, W. H., Aniwa.
Schmidt, W. J., Mayville.
Webb, W. B., Beaver Dam.

WYOMING.

Foster, W. C., Sunrise.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

The Danger of Signing Petitions.

Under the above title, the *New York State Journal of Medicine* for November comments editorially on a frequently noted failing of members of our profession, namely, that of signing petitions and endorsing movements of all sorts without giving careful consideration to the merits of the plan or individuals endorsed. The editorial calls attention to the coming meeting of the state legislature and to the large number of bills which will probably be introduced, many of which will affect the profession or the public from the standpoint of the physician. Regarding this mass of proposed legislation the editorial says, "Some of these measures are worthy and should become laws. Others are either poorly digested or crude efforts to cure real or imaginary ills by legislation. Some are purely local in character and while they might help a particular individual or locality, if applied to the entire state would be uncalled for or even harmful. Some of the proposed measures conflict with laws already in existence and would cause much confusion if passed. Many are clearly unconstitutional, while others are unnecessary or vicious."

Attention is then called to the machinery which has been devised for county and state societies with a view to considering and handling legislative matters. Each county society has or should have a committee on legislation, while the committee on legislation of the state society has general oversight and charge of all legislative matters. These committees "employ many means to present arguments to the legislator for or against proposed legislation, among them being the signing and forwarding to the legislature of properly worded petitions. This method is also employed by those who desire to promote public sentiment for or against proposed legislative methods and very frequently medical men are asked to sign such petitions. A request to sign may be made by a friend and for that reason the signature may be given without any really careful thought being accorded the proposed measure, or the petition may be presented by a plausible and tactful agent who may explain all the benefits and omit all the disadvantages of the bill if it should become a law." Members of the state society are urged to refrain from signing petitions or endorsing legislation which they do not thoroughly understand, and which has not already been approved by the regularly constituted committees. "Unless great care is exercised many will find to their sorrow that their approval has been secured for measures which, when they have time to study them carefully, meet with their hearty disapproval or condemnation. . . . How much wiser it would be for the doctor, when asked to approve or disapprove of impending or proposed legislation, to refuse to sign such petitions and to await the action of the state society of which he is a member, and through which he can speak by action of his house of delegates or committee on medical legislation?"

This editorial admirably emphasizes a shortcoming of our profession which must be corrected if medical organizations are ever to perform properly their duties to their members and to society. Physicians as a class must learn to work in regular systematic channels and through existing constituted means. There is nothing to be gained by electing officers and appointing committees for specific purposes, if the individual member is to ignore such officials and approve or disapprove important measures on his individual responsibility and opinion. Such a method can mean only a relapse into the disorganized, individualistic state of conflicting personal opinions, multitudinous views and lack of practical results from which we are just emerging. Nor are practical illustrations of the dangers of such a course wanting. During a recent session of a state legislature, the committee on public policy of the state association was vigorously opposing the passage of a certain bill on the ground that the entire state association which it represented was opposed to its passage. Much to the embarrassment of the committee, it was learned that one of the sections of the state society had, without any adequate consideration adopted a resolution endorsing the same measure which the committee on legislation was opposing.

Such incidents are by no means creditable, although perhaps instructive. Individual members as well as county societies—unless they thoroughly understand the subject and have good reasons for doing otherwise—should refrain from approving or disapproving proposed legislation, leaving this task to the properly constituted committees which have carefully considered the subject. The work of the individual member and society should be limited to carrying out the recommendations of the committee on legislation. Such a plan is not "machine rule," depriving the individual member of his right of opinion, etc., but is merely the subordination of the individual to the organized body for the general good, and is the substitution of an intelligent, carefully considered decision for a hasty and often erroneously conceived opinion of the measure in question.

Medical Service Bills Endorsed.

The Marin County (Calif.) Medical Society has adopted resolutions endorsing the United States Public Health and Marine-Hospital Personnel Bill, providing pay for the officers of the service on an equality with that received by officers of the Army and Navy. Resolutions have been adopted by the Northeastern Dental Association, a body composed of dentists from Maine, New Hampshire, Massachusetts, Rhode Island and Connecticut, endorsing the bills providing for a dental corps in the Army and Navy, as proposed by the surgeon-generals of these two departments.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fifth Month—First Weekly Meeting.

General Subject for the Month: Non-Venereal Diseases of the Genitourinary Tract.

ANATOMY OF BLADDER AND URETHRA.

BLADDER.—Location, surface markings, shape, size, relations, space of Retzius. Surfaces, sides, apex. Base, neck of bladder, intervesicular triangle, vesicle trigone. Ligaments, blood vessels, nerves, lymphatics. Structure of bladder wall.

URETHRA.—Shape and variations, length, curves, caliber, divisions. (a) Prostatic, length, shape, boundaries, verumontanum, prostatic sinus, orifices of prostatic ducts, of ejaculatory ducts. (b) Membranous, length, shape, boundaries. (c) Spongy or penile, length, boundaries, shape, fossa

navicularis, bulbous portion, meatus, glands of Littré, ducts of Cowper's glands. Structure of urethra, mucous coat, submucous coat.

ANATOMY OF PROSTATE GLAND AND PENIS.

PROSTATE.—Location, shape, size, relations, prostatic muscle, prostatic fascia, true capsule, apex, base, surfaces, lobes. Structure, muscular and glandular tissue. Vessels, nerves and lymphatics.

COWPER'S GLANDS.—Location, size, structure.

PENIS.—Root, crura, suspensory ligament. Body, shape, size, integument, surfaces. Extremity, meatus, glans, corona, cervix, glandulæ. Structure: (a) corpora cavernosa, fibrous sheath (tunica albuginea), crus, bulb, septum, trabeculæ, cavernous spaces, distribution of arteries, veins; (b) corpus spongiosum, relations, bulb of urethra, body, glans penis, fibrous layer, trabeculæ. Vessels, nerves and lymphatics of penis.

ANATOMY OF SCROTUM AND TESTICLE.

SCROTUM.—Skin, structure. Dartos, structure, attachments, septum scroti. Intercolumnar fascia. Cremasteric fascia and muscle. Infundibuliform fascia. Spermatic cord, relations, coverings, arteries, veins, spermatic duct, lymphatics.

TESTICLE.—Size, shape, position. Testis, extremities, borders and surfaces. Epididymis, globus major, body, globus minor. Tunica vaginalis, origin, visceral and parietal layers. Tunica albuginea, structure, relations, trabeculæ. Tunica vasculosa. Structure, lobules, convoluted and straight tubes, efferent ducts. Spermatozoids. Epididymis. Seminal duct. Semen. Seminal vesicles, size, shape, location, structure. Ejaculatory ducts.

REFERENCE BOOKS FOR THE FIFTH MONTH.

White and Martin: Genitourinary and Venereal Diseases.
Casper: Text-book of Genitourinary Diseases.
Keyes: Genitourinary Diseases.
Taylor: Genitourinary and Venereal Diseases.
Green and Brooks: Diseases of Genitourinary Organs and Kidneys.

Marriages

W. LOUARD CASH, M.D., to Miss Ida Effa Nichols, both of Princeton, Ky., November 19.

OTTO C. GAEBE, M.D., Addieville, Ill., to Miss Alma B. Wilde of New Athens, Ill., December 2.

WILSON T. DAVIDSON, M.D., U. S. Army, to Miss Mary Hudson, at Bolton, Texas, November 23.

HENRY CLAY COWLES, M.D., to Miss Grace Truman Fuller, both of New York City, November 24.

CHARLES M. KENNEDY, M.D., Camden, Ind., to EVA NEBEKER, M.D., of Covington, Ind., November 25.

THOMAS S. EGAN, M.D., Mapleton, Ill., to Miss Winifred M. Leonard, of Newark, N. J., November 25.

JAMES FULTON BURNAM, M.D., Huntsville, Ala., to Miss Laura Dillard, of Triana, Ala., November 24.

CHARLES W. EISENHOWER, M.D., Jacobus, Pa., to Miss Sadie A. Boyer, of York, Pa., November 24.

JAPHETH EDWARD RAWLS, M.D., to Miss Emma Copeland Holland, both of Suffolk, Va., November 24.

A. R. SWEENEY, M.D., Lake Arthur, La., to Miss Rilla D. Ingram, of Wichita Falls, Texas, December 1.

J. EVERETT PICKERING, M.D., to Miss Mildred Frances Bliss, both of Coldbrook Springs, Mass., November 29.

LESTER BROOKS ROGERS, M.D., to Miss Louise Tarbell, both of New York City, at Garden City, N. Y., recently.

PAUL RANDOLPH STALNAKER, M.D., U. S. Navy, to Miss Florence Dana West of Austin, Texas, November 10.

J. W. S. CROSS, M.D., Telluride, Colo., to Miss Ethelwyn A. Davenporte, of Picton, Ont., in Denver, November 19.

PATRICK F. GRIFFIN, M.D., Honesdale, Pa., to Miss Jennie Renn, of Bloomsburg, Pa., in New York City, November 25.

Deaths

Andrew J. McCosh, M.D., one of the most prominent surgeons of the east; died in the Presbyterian Hospital, New York, December 2, from injuries received in a runaway accident four days before, aged 50. Dr. McCosh was a son of the late President James McCosh of Princeton University. He received his A.B. and A.M. degrees from Princeton University, was graduated from the College of Physicians and Surgeons, New York City in 1880, and was given the honorary degree of LL.D. by Columbia University in 1905, and by Princeton University in 1906. He took a course of postgraduate study in the University of Vienna in 1882, and in 1883 began practice in New York City. He served his alma mater as clinical lecturer in surgery and later as professor of clinical surgery. For the last nineteen years he was a member of the staff of the Presbyterian Hospital as visiting surgeon, attending surgeon, and surgeon-in-chief; he was also attending surgeon to Roosevelt Hospital. His society memberships included the American Medical Association, the American Surgical Association, International Surgical Society, and American Society of Clinical Surgery. At the recent meeting of the International Medical Congress he read an interesting and important paper on peritonitis. Dr. McCosh won distinction not as a specialist, but as a general surgeon. While going on a professional errand November 28, one of his horses became frightened at an automobile, the buggy was overturned, and Dr. McCosh was dragged in the wreckage. He was taken to Presbyterian Hospital, where it was found that he had suffered a fracture of the base of the skull, a compound fracture of the clavicle, and other injuries, which, together with a pneumonia that developed from the exposure, caused his death four days later.

Francis J. Ives, M.D. U. S. Army; University of Virginia, Charlottesville, 1878; a member of the American Medical Association and Association of Military Surgeons of the United States; who entered the medical corps of the Army in 1881; and twenty years later was promoted to major and surgeon; served as brigade surgeon during the Spanish-American War; won especial praise for the conduct of his field hospital at the battle of El Caney; served later in the Philippine Islands and in China; and later on was in charge of the general hospital in Manila and was retired on account of physical disability a few weeks ago; died at his home in Washington, D. C., November 27, from cirrhosis of the liver, arising from tropical service, aged 51.

William Wallace Woodring, M.D. Miami Medical College, Cincinnati, 1867; University Medical College of Kansas City, 1898; a member of the American Medical Association; formerly president of the Sanpete County (Utah) Medical Society; a member of the board of delegates of the Utah State Medical Association and of the National Council of Medical Legislation for Utah; a member of the U. S. Pension Examining Board; local surgeon of the Denver and Rio Grande Railway; and health officer of Mount Pleasant, Utah; a Confederate veteran; died at Holy Cross Hospital, Salt Lake City, November 22, from uremia, aged 67.

William Miller, M.D. University of Pennsylvania, Philadelphia, 1875; a member of the American Medical Association; for six years a member and for four years secretary of the State Board of Medical Examiners of Texas; health officer of Kendall County and city physician of Rockport, Texas; founder and physician-in-chief of St. Mary's Sanitarium, Boerne, Texas; died recently at his home in Ormond, Fla., from uremia, aged 52.

Luther G. McCollum, M.D. Maryland Medical College, Baltimore, 1904; a member of the Medical Association of the State of Alabama; and a prominent young practitioner of Birmingham; died at St. Vincent's Hospital in that city, November 24, from septicemia, aged 26. The Jefferson County Medical Society, at a special memorial meeting held the same day, passed resolutions regarding Dr. McCollum's death.

James Hall Reed, M.D. Tulane University, New Orleans, 1868; Jefferson Medical College, Philadelphia, 1870; for many years a member of the American Medical Association; a member of the Michigan State Medical Society; a Confederate veteran; died suddenly at his home in Battle Creek, Mich., November 25, from cirrhosis of the liver, aged 64.

Rush J. Shank, M.D. University of Michigan, Ann Arbor, 1871; a member of the Michigan State Medical Society; a veteran of the Civil War and department commander of the G. A. R. of Michigan in 1874 and 1875; a member of the common council of Lansing; died at his home in that city November 25, from peritonitis, aged 59.

William Elwin Rogers, M.D. Georgetown University, Washington, D. C., 1904; a member of the Medical Association of the District of Columbia and the District of Columbia Mental and Psychological Society; a member of the staff of Providence Hospital, Washington; died in that institution, November 22, aged 30.

Ernest A. Matthaei, M.D. College of Physicians and Surgeons, Chicago, 1895; of Chicago; a member of the Illinois State Medical Society; associate in obstetrics at the Evangelical Deaconess Hospital, and assistant in surgery in the Chicago Polyclinic Hospital, died December 4, in Sierra Madre, Cal., aged 40.

Benjamin F. Dexter, M.D. College of Physicians and Surgeons, New York City, 1876; a veteran of the Civil War; and a police surgeon of New York City for more than twenty-five years; died at the home of his niece near Lockport, N. Y., November 16, from senile debility, aged 78.

George Edward Babbitt, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1876; of East Orange, N. J.; died at the Orange Memorial Hospital, November 23, from fracture of the base of the skull due to a kick by a horse in a runaway accident the day before, aged 49.

Gabriel Pellet Reeves, M.D. New York University, New York City, 1845; for a long time physician of Orange County, N. Y., and secretary and treasurer of the county medical society; died at his home in Yonkers, N. Y., from senile debility, November 25, aged 88.

Henry Frederick Angle, M.D. University of Pennsylvania, Philadelphia, 1869; formerly of Williamsport, Md.; sometime physician to the Washington County Almshouse; died, November 20, at his home in Brockton, Mass., from heart disease, aged 68.

Lucius Cary Allison, M.B., C.M. University of Edinburgh, Scotland, 1868; from 1873 to 1891 a member of the visiting staff of the General Public Hospital, St. John, N. B.; died at his home in St. John, November 26, from heart disease, aged 63.

Jeremiah Johnson, M.D. University of Maryland, Baltimore, 1852; for a number of years a resident of Waverly and physician of Wood County, W. Va.; died at the home of his daughter in Hagerstown, Md., November 30, from paralysis, aged 79.

Charles Williams Bailey, M.D. University of Maryland, Baltimore, 1889; a member of the American Medical Association; for 14 years in the U. S. P. H. and M.-H. Service; died at his home in Georgetown, S. C., November 24, aged 39.

Handley Nelson Bushnell, M.D. New York University, New York City, 1848; for many years a practitioner of Cape Vincent, N. Y.; died at the home of his daughter in East Orange, N. J., November 28, from senile debility, aged 81.

Reuben Camp Baldwin, M.D. Castleton (Vt.) Medical College, 1851; for nearly half a century a practitioner of Oswego, N. Y.; died at the home of his daughter in Syracuse, November 6, from senile debility, aged 84.

James Harvey Bates, M.D. Long Island College Hospital, Brooklyn, 1875; for many years a practitioner of Chicago; died in St. Luke's Hospital in that city, December 3, from postoperative pneumonia, aged 68.

De Witt Clinton Fowler, M.D. College of Physicians and Surgeons, New York City, 1863; died in his apartments in the Commercial Club, Aberdeen, S. D., November 25, from cerebral hemorrhage, aged 71.

Richard Thomas Gott, M.D. University of Maryland, Baltimore, 1868; subregistrar of the State Board of Health of Maryland; died at his home in Poolesville, November 26, from kidney disease, aged 64.

Henry Reder, M.D. New York University, New York City, 1880; formerly president of the Board of Health of Aurora, Ill.; died at his home in that city, from cirrhosis of the liver, November 23, aged 56.

Granger V. Randall, M.D. Chicago Homeopathic Medical College, 1883; a member of the Michigan State Medical Society; died suddenly at his home in Tecumseh, Mich., from pleurisy, November 25, aged 50.

Edward E. Collins, M.D. New York University, New York City, 1857; for forty years a practitioner of Minnesota; died in Unadilla Forks, N. Y., November 20, from intestinal obstruction, aged 75.

James M. Harris, M.D. Bellevue Hospital Medical College, New York City, 1868; of Yellow Springs, Ohio; formerly professor in Anti[illegible] College; died recently, in the Isle of Pines, Cuba, aged 70.

Chauncey B. Fowler, M.D. Long Island College Hospital, Brooklyn, 1878; a member of the Medical Society of the State of New York; died at his home in Brooklyn, October 30, aged 60.

Thomas Monroe Lanahan, M.D. Cleveland University of Medicine and Surgery, 1893; died at the home of his parents in Southington, Ohio, November 28, from heart disease, aged 39.

Harvey F. Craig, M.D. Baltimore University, 1888; of Griffithsville, W. Va.; died in the Charleston (W. Va.) General Hospital, November 24, from cerebral hemorrhage, aged 47.

Walter A. Bacon, M.D. Baltimore University, Maryland, 1898; of Pawtucket, R. I.; died at the home of his sister in Riverside, R. I., November 22, from nephritis, aged 35.

Vernon Amasa Dunshee, M.D. College of Physicians and Surgeons, Chicago, 1905; formerly of Palatka, Fla.; died in Asheville, N. C., November 19, from tuberculosis, aged 29.

Albert Burke, M.D. Baylor University, Dallas, Texas, 1903; a member of the American Medical Association; died at his home in San Antonio, Texas, November 21, aged 42.

William James Grimes, M.D. Jefferson Medical College, Philadelphia, 1881; a member of the Medical Society of Virginia; died at his home in Norfolk, November 28, aged 54.

Edward Anthony Mock, M.D. Bellevue Hospital Medical College, New York City, 1896; died at his home in Cambridge, Ill., November 21, from heart disease, aged 37.

T. A. Benbow (License, Colo., 1885); for more than thirty-three years a practitioner of Colorado; died at his home in Colorado Springs, November 18, aged 77.

Washington L. Hood, M.D. University of Georgia, Augusta, 1887; died suddenly at his office in Nicholson, Ga., November 18, from heart disease, aged 54.

Howard Finch Hawkins, M.D. College of Physicians and Surgeons, Baltimore, 1896; died at his home in Pine, Colo., Nov. 30, 1907, aged 34.

Joseph J. Judy, M.D. Eclectic Medical Institute, Cincinnati, 1866; died at his home in San Antonio, Texas, from paresis, September 1, aged 69.

Sylvanus F. Cosgrove, M.D. Cincinnati College of Medicine and Surgery, 1875; died at his home in Swanton, Ohio, November 23, aged 61.

A. San Martin, M.D. professor of surgery at the University of Madrid; former senator and cabinet minister; died November 9. He was at one time editor of the *Siglo Medico*, and always took a leading part in all matters affecting the welfare of the profession and the progress of science. The issue of the *Siglo Medico*, November 14, describes his career and last sickness with the autopsy findings—his will bequeathing his body to the dissecting table as his last contribution to science.

Sir Henry Pitman, M.D. Cambridge, 1841; F.R.C.P., London, 1845; registrar of the Royal College of Physicians, London, from 1858-1880; lecturer on "Principles and Practice of Medicine" and later consulting physician to St. George's Hospital, London; died at his home in Enfield, Middlesex, England, November 6, aged 100.

Society Proceedings

COMING MEETINGS.

Southern Surgical and Gynec. Assn., St. Louis, Dec. 15-17.
Western Surgical and Gynec. Assn., Minneapolis, Dec. 29-30.
American Assn. of Anatomists, Baltimore, Dec. 29-31.

SOUTHERN MEDICAL ASSOCIATION.

Second Annual Meeting, held at Atlanta, Ga., Nov. 10-12, 1908.

(*Concluded from page 1995.*)

The Necessity of Pure Food and Drug Regulation and the Education of the People in the Prevention of Disease.

DR. D. HARVEY DILLON, New Orleans: We should have uniform laws throughout the states regulating the sale of food and drug products, not only to protect the consumer, but in justice to the manufacturer and dealer. The laws in the various states are so different as to the labeling and branding

of food and drug products that it costs the manufacturers of the United States large sums of money to comply with them. If the legislatures of the various states would give to their respective boards of health authority to write a sanitary code and a pure food and drug law, it would then be possible through the national association of health officers to formulate a uniform law.

Toxic Arthritis of the Hip Joint in Children; Diagnosis and Treatment.

DR. MICHAEL HOKE, Atlanta, Ga.: There is a non-tuberculous, non-articular hip inflammation occurring in children and young people in their teens and presenting all the symptoms and physical signs of tuberculosis of the hip joint. In the last eighteen months 45 patients with hip-joint disease (children and young people), presenting the classical signs and symptoms of tuberculosis of the joint, have come to me for treatment. Of these, 33 were not tuberculous, and in 4 cases the diagnosis is not yet safe. The remainder were positively tuberculous.

Tuberculin in Diagnosis and Treatment of Surgical Tuberculosis.

DR. R. TUNSTALL TAYLOR, Baltimore, summarizes his paper practically as follows: The *x*-ray is the best aid to the clinical diagnosis of tuberculous bone disease. The subcutaneous injection of large doses of tuberculin (1 to 5 milligrams) in children is to be condemned for diagnosis; it is unnecessary, with the other means at our disposal, because harmful and possibly dangerous. Patients with syphilis and leprosy also respond to these large doses. The ocular tuberculin test may cause corneal ulcers and serious eye inflammations in 2 per cent. of the cases, and is, therefore, not to be used from choice. The von Pirquet skin reaction is reliable, safe and valuable, especially in conjunction with the clinical symptoms and the *x*-ray, in children. Tuberculin TR. in doses of from 1/1000 to 1/500 mg. and the fresh-air treatment should be used as a routine in all tuberculous bone and joint cases in an endeavor to immunize the patient. Thorough fixation and traction in all acute cases, and in the spine hyperextension, in addition, are of the greatest importance in treating the local disease. Hyperemia and bismuth paste are valuable additions to treatment. Tuberculous secondary abscesses should not be opened, unless there is some decided reason therefor, and, if opened, should be immediately sutured tight after the pus is evacuated. Otherwise a secondarily infected sinus will surely result, with its train of unfavorable symptoms. Operations on the joints of children should be avoided if possible. Not so with adults.

Discussion on Tuberculosis.

DR. A. DUVAL ATKINSON, Baltimore: The cases reported by Dr. Hoke, in my opinion, are due not so much to gastrointestinal intoxication as to infection through the tonsils. It has been proved in the last three or four years that the tonsils bear a close relationship to the joints, especially to all inflammatory conditions of the joints. I believe if Dr. Hoke would remove the tonsils by a thorough dissection in the beginning of these cases he would get quick and permanent results.

DR. WILLIAM J. BUTLER, Chicago: The tuberculin test, as all other reactions having their basis on immunity, must be considered as a systemic reaction, and as diagnostic only in this direction, and as not diagnostic of a local organic condition. In order to aid in the local diagnosis in tuberculous affections, as in joint lesions, the opsonic index, if employed following massage or other measures to increase hyperemia around the joint, may add greatly to our knowledge. In cases of glandular tuberculosis in which operation has been performed, recurrence taken place and tuberculin treatment instituted, the scars will frequently diminish and soften, so that the overlying scar tissue is freely movable over the underlying tissues.

DR. SEALE HARRIS, Mobile, Ala.: Regarding the cutaneous reaction, I had the opportunity of following a case with Dr. White at the Mobile City Hospital. A man was brought unconscious to the hospital, and the question of cerebrospinal meningitis came up. The cutaneous reaction was positive, and the man died a few days later. Autopsy showed that he had died from a cerebral hemorrhage, the result of syphilis. There was no trace of tuberculous infection anywhere in that man.

DR. TAYLOR: I did not understand whether Dr. Hoke applied the guinea-pig test in these cases or not.

DR. WILLIAM LITTERER, Nashville, Tenn.: The guinea-pig test is not only certain, but safe. The mere absence of the tuberculin reaction does not prove anything, although a positive finding after a subcutaneous tuberculin test is of distinct value. I have used the Calmette test in forty-five or fifty cases. In one instance a corneal ulcer followed the test, and since then I have abandoned it. I have found after using the subcutaneous test, making, say, three injections and getting a negative result, that if I then used the von Pirquet test I would get a positive result in every instance.

DR. OWEN, Atlanta, Ga.: Dr. Vaughn used the Calmette test on twenty medical students, and got positive results in six. Three weeks later the test was repeated and 57 per cent. gave positive results. The reason for this was that the patients had simply been sensitized. Dr. Vaughn found the same thing after injecting egg albumin. For instance, he injected guinea-pigs with egg albumin, and subsequent injections produced instant death.

DR. M. HOKE: There was no trouble with the throat or tonsils in the thirty-three non-tuberculous cases. The bismuth paste has proved of value in some cases, but in others it has failed to do any good. I find that pure tincture of iodin injected into these sinuses is an exceedingly valuable remedy.

DR. R. T. TAYLOR: Syphilis has been known to give a positive reaction to the skin test in cases in which the subcutaneous method was used. Syphilis responds to large doses of tuberculin.

Tumors of the Thorax with Abdominal Symptoms.

DR. A. DUVAL ATKINSON, Baltimore: Acute inflammatory diseases of the pleura and lung, of the pericardium, endocardium and myocardium, of the arterial system, especially of the transverse and descending aorta, and at times of the venous system within the thorax, at one time or another during their course may give rise to the following abdominal symptoms: Tenderness, either confined to a portion of the abdomen or to its whole surface; rigidity of the abdominal muscles; the respiration is of the costal type, and generally it will be found, if the hand is placed on the abdomen, that the spasm will relax momentarily at some time during inspiration; nausea, vomiting, distention, constipation. Fortunately there are some distinguishing features which are characteristic between this condition and peritonitis, especially if due to an acute pulmonary condition like pneumonia, namely, the relative disparity between the pulse and respiration. Often the respirations will register 40 a minute, while the pulse will be about 100. In addition, the respiration will usually exhibit that characteristic catch so commonly seen in pleuritic conditions. Another important point is the decidedly superficial character of the abdominal pain. Superficial palpation may elicit great pain, while really deep palpation may be permitted, even in children. It is of cardinal importance invariably to make a most thorough and careful examination of the thorax in all cases of abdominal lesions serious enough apparently to require operative interference.

DISCUSSION.

DR. I. I. LEMANN, New Orleans: I think every one has been struck by the frequency of abdominal pain in cases of pleurisy. In one case in which the patient was suffering from what appeared to be an alarming condition of the abdomen, I discovered a pleurisy, strapped the side, and the distressing symptoms cleared up in an hour.

DR. H. L. SUTHERLAND, Rosedale, Miss.: In a young man in whom a diagnosis of gall-bladder disease had been made, careful examination revealed lobar pneumonia.

DR. J. A. WITHERSPOON, Nashville, Tenn.: I have seen abdominal pain a feature in pneumonia, empyema, acute plastic

pleurisy, and mediastinal tumors. In one case a surgeon had diagnosed gallstones. An examination prior to operation revealed an empyema, but the surgeon was so sure of gall-bladder trouble that he operated, anyhow, and found a healthy gall bladder.

DR. WILLIAM J. BUTLER, Chicago: It has been found that in inflammatory changes in the abdomen there is an increased sensitiveness of the skin over the site of the inflammation, when compared with a corresponding area on the other side. This is especially valuable in gall-bladder affections and in appendicitis.

DR. R. TUNSTALL TAYLOR, Baltimore: In considering abdominal pain we should bear in mind, when dealing with children, the abdominal pain is due to disease of the spine.

DR. A. D. ATKINSON: An interesting discussion is going on in this country and abroad in regard to the sensibility of the peritoneum. I rather think we can agree pretty thoroughly with Lennander, who did more work on this subject than any one else, that the visceral peritoneum is insensitive, but that the perietal peritoneum is extremely sensitive.

A Quick Method of Curing Beginning Gonorrheal Urethritis.

DR. EDGAR G. BALLENGER, Atlanta: After having emptied the bladder the meatus is well washed with soap, and the anterior urethra is about half-filled with a 6 per cent. solution of argyrol with a blunt-pointed syringe. The sides of the meatus are compressed, the syringe removed, and the end of the penis thoroughly dried with sterile gauze. A piece of zinc oxid adhesive plaster, about an inch square, previously prepared, pressed against the meatus while its lips are being held closely together, seals the solution in the urethra. The solution is allowed to remain in the urethra for from three to four hours. Two such treatments should be given each day for two days, one on the third day, and a daily irrigation administered for two or three days longer. I have been surprised at the success attained by this method, and I believe the principle a rational one, which will prove of value to all who use it with discretion.

Symptomatology of Prostatitis.

DR. WILLIAM CULLEN BRYANT, Atlanta: The classical symptoms of acute prostatitis are apparent in every case, and the condition is easily recognized. On the other hand, the symptoms of chronic prostatitis are very varied, and it is necessary to classify them. I prefer the classification suggested by Young, of Baltimore, namely, urinary, sexual and referred. The urinary and sexual symptoms are well known, but to understand the referred symptoms it is necessary to study the nerve supply of the prostate. The prostate receives its sensory spinal fibers through the pudic nerve and sympathetic fibers from the hypogastric plexus. Through the influence exerted on the highly specialized and sensitive nerve endings in the prostate and prostatic urethra by the pathologic conditions resulting from chronic inflammation, painful impressions are carried along the afferent sensory fibers and by an irradiation or sort of overflow are felt in the area of distribution of those somatic sensory fibers taking origin from the same spinal segment as the visceral sensory fibers supplying the prostate. Thus we can readily understand the meaning of intense pruritus and through the inferior hemorrhoidal, pain in the perineum through the perineal, and the very frequently disagnosed sciatica and lumbago through the nerves coming off from the sacral and lumbar plexuses. Cases have been reported in which the symptoms simulated renal colic so closely that nephrotomy was performed and no stone found, the patients being afterward cured by prostatic massage.

Technic of Operation on Varicocele.

DR. J. M. JONES, Atlanta: In cases of very large varicocele or very long scrotum, simple resection of the veins is not sufficient, and the technic I use is as follows: After resecting the veins by the Bennett-Howse method, a clamp is applied to the scrotum in such a manner as to allow the removal of the redundant portion. Twelve or fourteen silkworm gut sutures are introduced through the holes in the clamp. The ends of these sutures are then gathered into two bundles and clamped with hemostats. An incision is then made with a sharp scalpel through the skin about one-eighth inch from the clamp, the remaining tissues being cut through with strong scissors curved on the flat. The subcutaneous tissues, consisting of dartos and cremasteric fascia, are then sutured with a No. 0 plain catgut continuous suture. The first turns of a surgeon's knot are then made in the silkworm gut and drawn tight. The clamp is then removed, and after waiting a few minutes for the hemorrhage to cease the skin edges are brought together with a No. 0 plain catgut continuous suture. The silkworm gut sutures are then adjusted and the knots completed.

Appendicitis Mortality. Reports of Fatal Cases. Statistics.

DR. F. W. MCRAE, Atlanta: Up to Nov. 9, 1908, I have done 574 operations for appendicitis, with 19 deaths, a small fraction over 3 per cent. mortality. These statistics include all my early cases, Grady Hospital work, operations done in home of patients (some living in hovels), private infirmaries, hospitals and sanatoriums, and cover a period of fifteen years. If we deduct deaths which I have included in the statistics due to coexisting or incidental diseases, it leaves 569 cases, with 14 deaths, a mortality of a little over 2 per cent., due directly to appendicitis and its complications following operative treatment.

Appendicitis in the Negro.

DR. S. T. BARNETT, Atlanta: This subject was first called to my attention by reading Dr. Kelly's work, in which he made the statement that appendicitis in the negro is practically unknown, citing a number of authorities. It happened at that time that I had had a series of four or five operations for appendicitis in the negro which were so typical and the pathologic findings of which were so characteristic that I could only believe that Dr. Kelly had been misinformed, that the disease was practically as frequent in the one race as another. I also wish to refute a statement that has been made that when the negro does have appendicitis the mortality is excessively high. I have removed the appendix from the negro twelve or fifteen times, and so far with a mortality of zero.

Other Papers Read.

Other papers read were as follows:

"Conservation of Energy and Multiple Operations in Surgical Work," Dr. R. R. Kime, Atlanta; "Some of the side Lines or Auxiliaries to the Surgeon," Dr. Shelby C. Carson, Greensboro, Ala.; "Tumors of the Bladder," Dr. A. L. Fowler, Atlanta; "Spinal Injuries, Real and Otherwise," Dr. W. W. Crawford, Hattiesburg, Miss.; "Traumatic Epilepsy," Dr. J. L. Crook, Jackson, Tenn.; "Recent Development in My Method of Treating Structural Scoliosis—Exhibition of Apparatus," Dr. Michael Hoke, Atlanta; "Treatment of Habitual Scoliosis by Passive and Active Correction," Dr. Theodore Yoepel, Atlanta; "Results Obtained with Vaccine in Chronic Infection," Dr. J. E. Paullin, Atlanta; "Report of Case of Erysipelas with Fatal Complications," Dr. Z. B. Chamblee, Birmingham, Ala.; "Treatment of Fistulous Tracts and Abscess Cavities by the Vaselin-Bismuth Paste Method," Dr. C. R. Andrew, Atlanta; "Radical Anorectal Surgery without General Anesthesia," Dr. A. B. Cooke, Nashville, Tenn.; "Urethral Stricture," Dr. W. L. Champion, Atlanta; "Anatomy of the Peritoneum and Gastrointestinal Tract from Standpoint of Development," Dr. W. B. Armstrong, Atlanta; "Intestinal Obstruction, Abstracts, Classification, Etiology, Symptoms, Surgical Treatment," Dr. I. J. Sellars, Birmingham, Ala.; "Postoperative Ileus, Early and Repeated Operations for Relief, with Report of Cases," Dr. F. G. Du Bose, Selma, Ala.; "Results Obtained with Radium Treatment," Dr. F. G. Hodgson, Atlanta; "Surgical Conditions of Exophthalmic Goiter," Dr. G. P. Huguely, Atlanta; "Recent Additions to the Diagnosis of Circulatory Disorders," Dr. George Dock, New Orleans; "Tuberculosis," Dr. George Brown, Atlanta; "Tuberculosis Among the Negroes," Ex-Gov. W. J. Northern, Atlanta; "Health Conditions of the Negro in the South, with Special Reference to Tuberculosis," Dr. H. L. Sutherland, Rosedale, Miss.; "Conservative Treatment of Hand Injuries by Antiseptic Dressings," Dr. W. P. Nicolson, Atlanta; "Epithelial Sowing as a Method of Skin Grafting," Dr. L. W. Childs, Atlanta; "Etiology and Prophylaxis of Yellow Fever," Dr. J. H. White, New Orleans; "Spontaneous Symmetrical Gangrene (Raynaud's Disease)," Dr. T. D. Coleman, Augusta, Ga.; "Transfusion of Blood as a Therapeutic Measure in Pellagra," Dr. H. P. Cole, Mobile, Ala.; "Pellagra and Pellagraias," Dr. J. H. Randolph, Chattahoochee, Fla.; "Two Cases of Acute Cardiac Aneurism of Unusual Location and Rare Etiology," Dr. G. S. Bel, New Orleans; "Some Neglected Things in the Child's Development," Dr. M. McH. Hull, Atlanta; "Nature and Treatment of Neurasthenia," Dr. S. T. Rucker, Memphis, Tenn.; "Neurasthenia," Dr. H. M. Folkes, Biloxi, Miss.; "Nature and Treatment of Functional Neurasthenia," Dr. E. M. Hummel, New Orleans.

The officers elected were named in THE JOURNAL, November 21, page 1792.

Book Notices

RELIGION AND MEDICINE. By Elwood Worcester, D.D., Ph.D., Samuel McComb, M.A., D.D., and Isador H. Coriat, M.D. Cloth. Pp. 427. Price, $1.50. New York: Moffat, Yard & Co., 1908.

The object of this book, as stated in the introduction, is "to describe in plain terms the work on behalf of nervous sufferers which has been undertaken in Emmanuel Church, Boston." It discusses the treatment of functional nervous disorders, and the authors say: "We make free use of moral and psychical agencies, but we do not believe in overtaxing these valuable aids by expecting the mind to attain results which can be effected more easily through physical instrumentalities. Accordingly we have gladly availed ourselves of the services of the skilled medical and surgical specialists who have offered to cooperate with us, and we believe that our freedom in this respect and the combination of good psychical and physical methods have had much to do with our success." The authors have confined their practice to that large group of maladies which are known as functional disorders, "because disorders of this nature are peculiarly associated with the moral life. An attack of typhoid fever may spring from no moral cause and it may have no perceptible influence on the character, but neurasthenia, hysteria, psychasthenia, hypochondria, alcoholism, etc., are affections of the personality. They spring from moral causes and they produce moral effects." In the tracing of this class of disorders to the personality rather than to the person, to moral rather than to material causes, lies the keynote of the success which attends the various systems of faith-healing, and no greater defense against their incursions can be found than a recognition and application of this fact by the medical profession and the public. Janet's method of bringing the obsessing idea "into the field of consciousness" as the first essential toward overcoming its effects, is a scientific application of this principle.

The present work is an exposition of what is known concerning the so-called subconscious mind, suggestion, autosuggestion, heredity and environment as causes of nervousness, the diseases of the subconscious, the nature and therapeutic value of hypnotism, fear and worry, etc. It is a work from which the practitioner, as distinguished from the specialist in psychiatry, will gain as much practical assistance in the comprehension of the personal factor in disease as from more strictly scientific and technical works on the subject.

When we come to the work as the symbol of the Emmanuel movement itself, we must confess that we are constrained by a certain hesitation. We are reluctant to discourage a movement which we believe to be established with the most laudable purpose in view, one which undoubtedly is effecting some good, and in all probability is not as yet offset by much accompanying harm. But the fact remains that few among the religious instructors who will sooner or later take up this work are equipped by training or otherwise to conduct such a movement. In other words, the men who started this movement will soon find that they have lost control of it and that it is in the hands of those who do not appreciate its limitations; thus much more harm than good will result.

The wise physician will welcome the assistance, in suitable cases, of the judicious and tactful minister of any religion; but he will shun the aid of one lacking those qualities.

DIE LEHRE VON DER INTUBATION. By Prof. Dr. J. von Bókay, Director of the Stefanie Hospital for Children in Budapest, Hungary. Paper. Pp. 250, with Illustrations. Price, $2.50. Leipsic: Verlag von F. C. W. Vogel, 1908.

This work is dedicated to Dr. Joseph O'Dwyer by Dr. von Bókay. The history of intubation is considered from its beginnings and due credit is given to Bouchut for the invention of his method of intubation, called "tubage," which was based on rational ideas and was developed by him in 1858. "Tubage" failed of success only because of the prejudice and unjust condemnation with which it was received by Bouchut's contemporaries, who were loath to abandon tracheotomy for it. A brief biography of O'Dwyer precedes a most detailed relation of the experiments of this genius, which made the difficult procedure of intubation so simple that it has become the property not only of specialists but of all physicians, and which led to the creation of a set of instruments so exactly adapted to the purpose that all attempts to improve them have merely proved aberrations from the true principles of their construction.

The technic of intubation is most elaborately considered, including all of the accidents and injuries which may occur in its performance. In addition to instrumental extubation, the "enucleation" method of Bayeux, in which the tube is expressed from the windpipe and larynx by stripping them from without by pressure on the neck is fully described. The important subject of the damage which may be done the larynx in the introduction, placing and extraction of the tube occupies 49 pages of the work. The first part of the book considers intubation in relation to diphtheritic laryngeal stenosis; the second, intubation for all other conditions creating obstruction in the larynx or upper trachea.

An important feature of the work is the chapter on intubation as an aid to tracheotomy, which has proved most satisfactory to Bókay.

Bókay's enormous experience in intubation and tracheotomy fit him peculiarly to give a clear, logical and elaborate consideration of intubation. His book may be heartily recommended as a model reference handbook on intubation. It omits nothing, is easily read and is designed to help the physician in general practice and the specialist as well by its judicious advice in difficult situations. A translation of this useful work into English is to be desired.

UEBER APPENDICITIS WAEHREND SCHWANGERSCHAFT UND GEBURT. Von Gerhard Renvall. Paper. Pp. 117. Price, $1.00. Berlin: Verlag von S. Karger.

In this volume is discussed a topic of vital interest to the general practitioner, the surgeon and the obstetrician, namely, the prognosis and treatment of pregnancy complicated by appendicitis. After reviewing the experience of others, and especially the results of operative interference in cases of appendicitis occurring during pregnancy, the author advances the following propositions as to the indications for emptying the uterus: In diffuse peritonitis in the last stages of pregnancy, or in cases accompanied by severe septic manifestations after the period at which the fetus is viable, the uterus should generally be emptied by *accouchement forcé*, even if labor pains have not begun; and the delivery should be followed by a laparotomy. If labor pains are present, or if the fetus is dead, an evacuation of the uterus should precede laparotomy, at least in the latter half of pregnancy, and also at an earlier stage if circumstances require it. Exceptions may be made in special cases. Twenty-three new cases are reported in detail from the clinic of Prof. Otto Engström of Helsingfors, and two from the practice of Prof. A. Krogius. The book concludes with brief abstracts of 253 cases from the literature and a full bibliography.

SANATORIA FOR CONSUMPTION AND CERTAIN OTHER ASPECTS OF THE TUBERCULOSIS QUESTION. Supplement in Continuation of the Report of the Medical Officer for 1905-06, to the Thirty-fifth Annual Report of the Local Government Board, 1905-06. Paper. Pp. 670, with Illustrations. Price, $1.25. London: Darling & Son, 1908.

This is a supplement to the Report of the Medical Officer for 1905-6 to the thirty-fifth Local Government Board of Great Britain. The volume consists of 670 pages, discussing all aspects of the sanatorium question. A discussion of the advisability of the notification of cases of tuberculosis is added, in which both the advantages and disadvantages of compulsory notification are set forth. While no definite conclusion is drawn, it is admitted that although the useful effects of notification are not as yet very apparent, it is too early to condemn the measure. The report is profusely illustrated with tables and plates.

TEXT-BOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Cloth. Pp. 557, with Illustrations. Price, $3.00. Philadelphia: W. B. Saunders Co., 1908.

Jordan's "General Bacteriology" is an unusually well-written text-book. It is destined to occupy a large field of great usefulness because it meets the needs, not only of the medical student, but also of the general scientific student and reader who is interested in the relations of microbes to disease and in their growing importance to agriculture, to sanitation and to many industries. It is needless to say that an exhaustive

discussion of all sides of bacteriology is not intended and would have been quite impossible within the compass of the book. It aims to be a general introduction and, with due regard to perspective, bestows emphasis on general principles rather than on special questions, main stress always being placed on the medical side of the subject. We are familiar with no book on bacteriology that will serve so well the needs of the busy physician—and there are many such—who feels a desire to go over again the general subject of bacteriology in the light of the latest advances and additions to our knowledge. A pleasant and profitable task is in store for him, because this book is interesting and stimulating reading and remarkably up to date. The style is clear and crisp. Professor Jordan is not only master of the subject, but also a skilful writer; witness the introduction in which the chief historical facts in regard to the discovery of bacteria and the origin, scope and biologic significance of bacteriology are admirably set forth. One quotation may be permitted: "The new conception of the microscopic underworld which bacteriology brought into biologic science must be reckoned as a conspicuous landmark, and, in so far as it has changed the attitude of man toward the universe, should be reckoned as one of the most important triumphs of natural science." The book bears the scholar's hall-mark. There is an index of names, as yet an uncommon luxury in American text-books. The biographic references are given according to a fixed plan and not in the incomplete and haphazard manner so often seen in our books and articles, even in those with some pretensions to scholarship. The references call the attention of the reader to articles of historical or classical interest, to valuable summaries and to articles dealing with subjects under active investigation or concerning which there is variance of opinion. In the next edition reference should be made to the fundamental but often overlooked work of Denys and his pupils on the mechanism of phagocytosis. To many, remarks concerning such matters as references may seem wholly unnecessary, but they are not trivial, for the careful, conscientious attention to detail exemplified in this book makes for better scholarship and promotes scientific exactness. Writers of medical text-books should use Jordan's book as a model.

DIE LEHRE VON DER KONGENITALEN TUBERKULOSE mit besonderer Berücksichtigung der Placentartuberkulose. Von Anton Sitzenfrey, I. Assistenten der Universitätsfrauenklinik und Privatdozenten für Geburtshilfe und Gynäkologie an der Universität in Giessen. Paper. Pp. 156, with illustrations. Price, $1.40. Berlin: Verlag von S. Karger, 1909.

The origin of this treatise is the suggestion of Professor von Franqué to Dr. Sitzenfrey that he should investigate thoroughly the subject of tuberculosis of the placenta with relation to the doctrine of the hereditary character of tuberculosis and the existence of a hereditary predisposition to the disease. The work involved a great deal of investigation and a thorough search of the literature, as is evidenced by the citing of nearly 200 references. The monograph contains 156 pages, with a number of good illustrations. Much new histologic matter is introduced and the general conclusion reached that, although the placentar cases are comparatively few, and although observation indicates that healthy children can be born when the placenta is diseased, nevertheless the rarity with which thorough investigations are carried out on the placenta and the possibility of bacilli reaching the fetus by other channels than the placenta or of their passing through the placenta without leaving any trace of their passage shows this method of infection to be of greater importance than has been generally supposed.

PATHOLOGIC TECHNIC. By Frank Burr Mallory, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School, and James Homer Wright, A.M., M.D., S.D., Director of the Pathologic Laboratory of the Massachusetts General Hospital. Fourth Edition. Cloth. Pp. 480, with illustrations. Price, $3.00. Philadelphia: W. B. Saunders Co., 1908.

The text-book of Mallory and Wright is designed as a guide to the making of postmortem examination and the subsequent histologic and bacteriologic investigations. The fourth edition has been carefully revised for the correction of errors and a few changes have been made. A few methods have been omitted and a number of new ones, which have stood the test of time and trial, have been added. Prominent among the added bacteriologic methods are those for the detection and differentiation of the typhoid bacillus, especially when occurring in the feces. Various methods for tissue-staining, as for the detection of glycogen, lime salts and the *Spirochæta pallida* have been introduced. The book is well illustrated and ought to prove of value to practitioners and students, as well as to the pathologists.

SUBCUTANEOUS HYDROCARBON PROTHESES. By F. Strange Kolle, M.D., Author of "The Recent Röntgen Discovery," Etc. Cloth. Pp. 153, with illustrations. Price, $2.50. New York: The Grafton Press.

The author reviews the literature, selects from it such data as he deems necessary for a full presentation of the methods of paraffin prothesis now in use, and combines with them the results of his own experience. He warns against striving for the unattainable; a surgeon can not remodel malformations as a sculptor would clay. He cautions against filling out defects such as saddle-nose at one sitting, stating that the work must be done slowly, giving the injections time to adjust themselves to the tissues before others are attempted. He gives in semitabular form a list of difficulties and dangers to be looked for and avoided, and enumerates the untoward results which are liable to follow imperfect technic. There are several half-tone illustrations showing conditions "before and after," and a complete bibliography is appended.

SPECTACLES AND EYEGLASSES. THEIR FORMS, MOUNTING AND PROPER ADJUSTMENT. By R. J. Phillips, M.D., Late Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine. Cloth. Pp. 91, with illustrations. Price, $1.00. Philadelphia: P. Blakiston's Son & Co., 1908.

The fourth edition of this little book, which has proved of so much value to opticians and those ophthalmologists who attend personally to the adjustment of the glasses they prescribe, has benefited considerably by revision. It is almost indispensable to one who fits glasses; and familiarity with its contents is advisable for any ophthalmologist since proper adjustment of lenses is one of the essentials of satisfactory refraction. The constant advances made in the art of spectacle-fitting and the many new and perfected methods in the manufacture of bifocals which are being brought forward, make a revised edition necessary. It is gratifying to note that all innovations which possess real merit have been given due recognition in Dr. Phillips' work.

CLINICAL DIAGNOSIS: By Charles Phillips Emerson, A.B., M.D., Late Resident Physician, The Johns Hopkins Hospital. Cloth. Second Edition. Pp. 686, with illustrations. Price, $5.00. Philadelphia: J. B. Lippincott Co.

This edition embodies a careful revision, in which fully one-half of the work has been rewritten, necessitating a considerable increase in the number of pages. The subject of the bacteriology of the sputum and urine and a number of new illustrations have been added. The book includes many methods which the general practitioner can not employ, but concerning which it is desirable that he should be informed, and this book makes it possible for him to obtain such knowledge conveniently. The volume is well illustrated.

ANGINA PECTORIS. Von Dr. Louis Peiser, Arzt am deutschen Hospital und deutschen Dispensary der Stadt New York. Paper. Pp. 106. Stuttgart: Verlag von Ferdinand Enke, 1908.

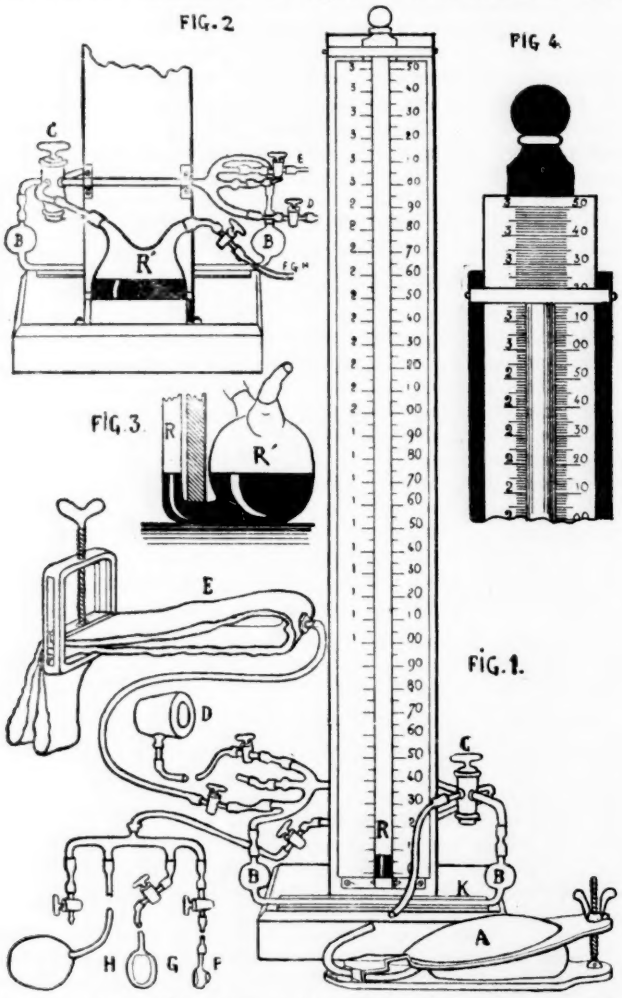
This monograph offers an exposition of the subject of angina pectoris and of pseudoangina, together with a consideration of the etiology and diagnosis of arteriosclerosis, to which is attributed the origin of the anginal disease. Peiser regards the pathology of angina vera as identical with that of arteriosclerosis of the coronary arteries. The treatment of both varieties of angina is considered at length, much stress being laid on prophylactic measures.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, United States Army. Second Series. Vol. xiii. Periodicity-Prussia. Cloth. Pp. 929. Washington: Government Printing Office, 1908.

This volume of the second series of the Index-Catalogue extends from "periodicity" to "Prussia," and includes 5,556 author entries representing 3,250 volumes and 4,851 pamphlets, 7,678 subject entries of separate books and pamphlets, and 40,221 titles of articles in periodicals. It is needless to comment on the value of this monumental work.

Miscellany

Universal Sphygmomanometroscope.—At Janowsky's clinic at St. Petersburg the blood pressure in the upper extremities is determined by comparison of the findings of five different apparatus. These include the Riva-Rocci cuff, the tonometer, the two spring manometeras of Basch and the water manometer of Zipliaef-Janowsky. Privat docent N. van Westenrijk of St. Petersburg has succeeded in combining these various apparatus in a single one in which one mercury manometer answers for all. It is arranged so that the zero point can be adjusted, and it allows comparison of the findings with different technics and registration of the pressure up to 350 mm. mercury. The mercury tube R (Figs. 1 and 3) opens below into the reservoir R′, the graduated scale (Figs. 1 and 4) being fastened between the mercury tube and the reservoir. The whole is mounted on a weighted wooden standard. The



right hand branching arm of the reservoir R′ (Fig. 2) is connected with the tube which forks to the Riva-Rocci cuff E (Fig. 1), the Gaertner tonometer ring D, the Basch contrivance for determining the pressure in the capillaries F, the rubber bulb for determining the blood pressure in the veins G, and the rubber bulb H for increasing the pressure in the glass chamber F. All these are controlled with stopcocks in the tubes. The left hand branching tube from the reservoir R′ is connected with the rubber bulb A, which is compressed by a screw lever to increase the pressure (Fig. 1) in the cuff and ring and also in the manometer. The tube B, with its two enlargements and capillary lumen, runs in the groove K, and is brought into connection separately with the cuff, ring, etc., on the other side of the reservoir R′, by turning the stopcock C. The apparatus allows the Riva-Rocci cuff to be used for tonometry as well as in the usual manner. The illustrated description is published in the *Mitteilungen der Gesellschaft für innere Med.*, vii, 202, 1908.

Fifty Years of Scotch Lunacy Administration.—Fifty years covers a period of many changes in any department of medicine, but in none more certainly than in the treatment of the insane. This is more especially true regarding the Scotch asylums, as they were at the beginning of this period rather behind the rest of the world. According to John Keay, who writes in the *Caledonian Medical Journal*, October, 1908, "during the earlier years of the nineteenth century the condition of the insane of the poorer class in Scotland, whether in asylums or out of them, was just about as bad as it could be." Ignorance and lack of authority for needed reforms on the part of the board of supervision and indifference on the part of the public are assigned as the causes of this condition. It was left to an American lady, Miss Dix, to inaugurate the movement for investigation and reform. The commission appointed reported in 1857, revealing an amount of misery and wretchedness and a callous indifference to suffering which were absolutely appalling. After some opposition a General Board of Commissioners in Lunacy for Scotland was appointed, district boards formed and district asylums erected and many reforms instituted. In the twenty-third annual report of the commissioners in 1881 the most noteworthy changes that had been made were shown to have been manifested in three directions: 1, In the greater amount of liberty accorded to the patient; 2, in the increased attention that is devoted to their industrial occupation; and, 3, in the more liberal arrangements that are made for their comfort. Keay notes further progress shown at the present time in the following respects: The hospital spirit and methods have been introduced into asylums. The scientific study of insanity is encouraged and the institutions have been transformed from asylums for the safe-keeping and detention of dangerous members of society into hospitals for the cure of mentally afflicted persons. Nurses have been especially trained for the purpose, and the introduction of female nurses has contributed largely to the improvement. The asylums of Scotland have not prosecuted original research on insanity to the extent that those in some other countries have, largely because of the insufficient funds and equipment of the individual asylums. To remedy this a laboratory of the Scottish asylums has been established, where important scientific and practical work has been done by Dr. Ford Robertson. The segregate or villa system of asylum-building marks the tendency to approximate as closely as possible the conditions of ordinary general society life in asylum management. Bangour Village, of which Dr. Keay is superintendent, was constructed by the Edinburgh District Board of Lunacy on this plan in 1898. Other Scotch asylums are being arranged in the same manner. The last characteristic of the modern treatment of the insane, as contrasted with that of the last century, is the provision of the care of the patient in incipient cases in special wards apart from asylums. While such wards have not as yet been established in general hospitals, some parochial boards have provided accommodations for a few patients. The benefits have been so manifest that more general extension of them has been provided for. It is proposed to open such wards in connectin with the Royal Infirmary.

The Effects of Thyroidectomy on the Mammalian Pituitary.—P. T. Herring (*Quart. Jour. Exper. Physiol.*, 1908, i, No. 3) sets forth what he considers histologic evidence of the interrelation of function of the pituitary body and the thyroid gland. The effects of the removal of the thyroid on the pituitary have been noted by Stieda, who describes a hypertrophy of the glandular part of the latter after thyroidectomy; and by Rogowitsch, who states that in those animals which survive thyroidectomy the function of the thyroid is taken over and maintained by an increased functional activity of the pituitary. Herring reports very little change of structure in the glandular part of the pituitary body in all of the animals from which he removed the thyroid, but finds histologic alterations in the pars nervosa and pars intermedia, and in the ependymal cells of the third ventricle. These changes, together with results which he obtains from his extensive compartive histologic studies of the pituitary (*Quart. Jour. Exper. Physiol.*, i, No. 2) lead him to the following conclusions:

The pituitary body produces a secretion (other than the internal secretion), which passes through the pars nervosa to enter the infundibular space. Here it combines with a kind of secretion of the ependymal cells, the combined secretions passing to the third ventricle of the brain to become a part of the cerebrospinal fluid. The secretion of the pars nervosa is of a colloid appearance and is markedly increased after thyroidectomy. The most striking changes are manifested in the nervous part of the posterior lobe and in the laminæ forming the floor of the third ventricle. In these situations granular, hyaline or colloid bodies become very numerous." "The significance of these changes is as yet undetermined," and the nature of the colloid of the pituitary and its relations to the active substances of the posterior lobe are unknown.

Indications of a Special Secretion in the Testicles Before Puberty.—Schmaltz (*Arch. f. Mikr. Anat.*, lxxi, No. 1) endeavors to prove that the testicles of young animals are active in producing a special secretion before the age of puberty is attained. This secretion passes out through the walls of the seminiferous tubules and is carried by the dilated lymphatic vessels of the connective tissue stroma. It is of a watery serous nature and does not represent mucoid or fatty degeneration of parenchymatous cells, as has been reported by some, since it gives none of the ordinary reactions for either. The significance of this secretion and its possible influence on the development of the accessory genital organs (prostate, etc.) have not been determined.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

VIRGINIA: Lynchburg, Dec. 15-18. Sec'y., Dr. R. S. Martin, Stuart.

NEW HAMPSHIRE: Concord, Dec. 29-30. Regent, Mr. H. C. Morrison.

Louisiana October Report.

Dr. F. A. LaRue, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, Oct. 1-2, 1908. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 21, of whom 13 passed and 8 failed. Four reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Atlanta School of Medicine	(1908)	83.2
Louisville and Hosp. Med. Coll	(1907)	87.6, 92.8
Louisville Med. Coll	(1907)	84.2
Tulane University of Louisiana	(1899)	77.8
Flint Med. Coll	(1905) 78.8; (1908)	78.8
Maryland Med. Coll	(1903)	81.6
Jefferson Med. Coll	(1908)	93
Medico-Chirurgical Coll., Philadelphia	(1908)	92.4
Chattanooga Med. Coll	(1901)	84.8
University of Nashville	(1908)	78.6, 84.6
FAILED.		
University of Georgia	(1908)	65.6
Kentucky School of Med	(1883) 69.6; (1908)	73
Louisville Med. Coll	(1898) 22.0; (1907)	38.6
Flint Med. Coll	(1901)	71.4
Memphis Hosp. Med. Coll	(1893) 65.6; (1902)	69.2

LICENSED THROUGH RECIPROCITY.

College	Year Grad.	Reciprocity with
University Med. Coll., Kansas City	(1908)	Missouri
Jefferson Med. Coll	(1896)	New York
Vanderbilt University	(1908)	Texas
University of Texas	(1895)	Texas

Pennsylvania June Reports.

The Medical Council of Pennsylvania reports the written examinations held by the several boards at Philadelphia, Pittsburg and Harrisburg, June 23-26, 1908. The number of subjects examined in was 7; percentage required to pass, 75.

At the examination held by the State Medical Board, at Philadelphia and Pittsburg, June 23-26, the total number of candidates examined was 395, of whom 362 passed and 33 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Total No. Exam'd.
Howard University	(1908)	2
Georgetown University	(1908)	3
College of P. and S., Chicago	(1906) (1907)	2
American Med. Miss. Coll	(1906)	1
National Medical University, Chicago	(1908)	1
Kentucky School of Med	(1906)	1
Louisville Med. Coll	(1907)	1
Johns Hopkins Med. School	(1, 1903) (2, 1908)	3
College of P. and S., Baltimore	(1, 1907) (9, 1908)	10
University of Maryland	(1, 1901) (2, 1908)	3
Baltimore Med. Coll	(1, 1899) (10, 1908)	11
University of Michigan	(1, 1907) (2, 1908)	3
St. Louis University	(1908)	1
Ensworth Med. Coll., St. Joseph	(1892)	1
University and Bellevue Hosp. Med. Coll.	(1907) (1908)	2
New York Univ. Med. Coll	(1898)	1
Leonard Med. School	(1906) (1907) (1908)	3
Starling Med. Coll	(1903)	1
Starling-Ohio Med. Coll	(1908)	1
Cleveland Coll. of P. and S	(1907)	1
Western Reserve University	(1908)	2
Medico-Chirurgical College, Philadelphia, (1900) (1906) (1907)	(52, 1908)	55
University of Pennsylvania (1900) (3, 1906) (7, 1907)	(88, 1908)	99
Jefferson Med. Coll. (1905) (6, 1906) (9, 1907) (70, 1908)		86
Woman's Med. Coll. of Pennsylvania	(1906) (12, 1908)	13
Western Pennsylvania Med Coll	(2, 1908) (45, 1907)	47
Temple Coll., Med. Dept	(1908)	7
University of Basel, Switzerland	(1899)	1
FAILED.		
Howard University	(1907)	1
National Medical University, Chicago	(1906)	1
Kentucky School of Med	(1907)	1
University of Maryland	(1903) (1906)	2
Maryland Med. Coll	(1906) (1907)	2
Baltimore Med. Coll	(1899) (1907) (1908)	3
College of P. and S., Baltimore	(1908)	1
Tufts Coll. Med. School	(1907)	1
Detroit Coll. of Med	(1906)	1
St. Louis Coll. of P. and S	(1904)	1
Leonard Med. School	(1907)	1
Western Pennsylvania Med. Coll	(6, 1907) (4, 1908)	10
Medico-Chirurgical College, Philadelphia	(1905) (1908)	2
Temple Dept., Med. Coll	(1908)	1
Jefferson Med. Coll	(1908)	1
University of Rome, Italy	(1904)	1
University of Naples, Italy	(1905) (1906)	2
University of Vienna, Austria	(1903)	1

At the examination held by the Homeopathic Medical Board at Philadelphia, June 23-26, the total number of candidates examined was 28, of whom 27 passed and 1 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Total No. Exam'd.
Maryland Med. Coll	(1907)	1
University of Michigan	(1908)	1
Columbia University, Coll. of P. and S., New York	(1906)	1
Cleveland Homeo. Med. Coll	(1908)	3
Western Pennsylvania Med. Coll	(1908)	1
Hahnemann Med. Coll., Philadelphia	(1898) (1905)	20
	(18, 1908)	
FAILED.		
Hahnemann Med. Coll., Philadelphia	(1907)	1

At the examination held by the Eclectic Medical Board at Harrisburg, June 23-26, the total number of candidates examined was 20, of whom 16 passed and 4 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Total No. Exam'd.
University of Louisville	(1907)	1
Medical School of Maine	(1879)	1
Maryland Med. Coll	(1907)	2
Baltimore Med. Coll	(1907)	1
Atlantic Med. Coll	(1908)	1
Albany Med. Coll	(1901)	1
Eclectic Med. Inst., Cincinnati	(1905) (2, 1908)	3
Medico-Chirurgical College, Philadelphia	(1905) (4, 1908)	5
Hahnemann Med. Coll., Philadelphia	(1908)	1
FAILED.		
Maryland Med. Coll	(1907)	1
Baltimore University	(1904)	1
University of the South	(1904)	1
University of Naples, Italy	(1904)	1

Arizona October Report.

Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, Oct. 5-6, 1908. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 8, of whom 5 passed and 3 failed. The following colleges were represented:

PASSED College.	Year Grad.	Per Cent.
University of Southern California	(1907)	75.5
Hering Med. Coll	(1908)	78.5
Northwestern Univ. Med. School	(1903)	84
Jefferson Med. Coll	(1906)	76.4
National Med. Coll., Mexico City	(1901)	76.3

FAILED.		
College of P. and S., Los Angeles	(1906)	72.8
Pulte Med. Coll.	(1901)	68.5
University of Tennessee	(1907)	74.6

Iowa September Report.

Dr. Louis A. Thomas, secretary of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, September 16-18, 1908. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 33, of whom 26 passed and 7 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
College of P. and S., Chicago	(1908)	87.4
American Med. Miss. College	(1899)	76.2
Hahnemann Med. Coll., Chicago	(1908)	80.1
Bennett Coll. of Ecl. Med. and Surg.	(1908)	76.2
University of Iowa	(1908) 80.6, 81.5, 84.4,	88.1
Drake University	(1908) 78.6, 79.6, 86.4, 86.5, 86.7,	88.1, 89.4
Keokuk Med. Coll., Coll. of P. and S.,	(1908) 75.1, 78.7, 79.4, 80, 82.2.	
Johns Hopkins Univ. Med. School	(1906)	88
St. Louis University	(1908)	81.1
University of Pennsylvania	(1907)	90.5
University of Tennessee	(1898)	89.5
Western University, London, Ontario	(1907)	81.1
University of Naples, Italy	(1890)	75.2

FAILED.		
College of P. and S., Chicago	(1905)	73.7*
Drake University Coll. of Med.	(1908)	73.6
State Univ. of Iowa	(1906)	71.2*
Keokuk Med. Coll., Coll. of P. and S.,	(1906) 72;† (1908)	59.2* 73*, 73.2.*

* Second examination.
† Fourth examination.

Iowa October Reciprocity Report.

Dr. Louis A. Thomas, secretary of the Iowa State Board of Medical Examiners, sends the following report of reciprocal licenses issued at the meeting held by that board Oct. 15, 1908:

College.	Year Grad.	Reciprocity with
Medical College of Georgia	(1908)	Georgia
Rush Med. Coll.	(1901) Illinois; (1893)	Wisconsin
Northwestern Univ. Med. School	(2, 1907) (1908)	Illinois
College of P. and S., Chicago	(1905)	Illinois
Illinois Med. Coll.	(1907)	Illinois
American Med. Miss. Coll.	(1899)	W. Virginia
University of Iowa, Homeopathic Dept.	(1897)	Michigan
Johns Hopkins Univ. Med. School	(1907)	Maryland
University of Michigan	(1888)	Michigan
Homeopathic Med. Coll. of Missouri	(1908)	Missouri
Barnes Med. Coll.	(1902)	Nebraska
Washington University, St. Louis	(1907)	Missouri
University of Nebraska	(1908)	Nebraska
Medical College of Ohio	(1902)	Illinois
Woman's Med. Coll. of Pennsylvania	(1908)	Maryland
Meharry Med. Coll.	(1906)	Kansas

Arkansas October Report.

Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, October 13, 1908. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 30, of whom 18 passed, including 4 non-graduates, and 12 failed, including 5 non-graduates. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Keokuk Med. Coll., Coll. of P. and S.	(1908)	79
College of P. and S., Kansas City	(1903)	78
Kentucky School of Med.	(1907)	78
University of Louisville	(1908)	77, 81
Tulane University of Louisiana	(1905)	88
St. Louis University	(1908)	78
Barnes Med. Coll.	(1904) 76; (1908)	80
Washington University	(1907)	75
Jefferson Med. Coll.	(1908)	83
Memphis Hosp. Med. Coll.	(1908)	77
Meharry Med. Coll.	(1908)	78
University of Texas	(1908)	84

FAILED.		
Physio Med. Coll. of Indiana	(1897)	63
Ensworth Central Med. Coll.	(1906)	62
Barnes Med. Coll.	(1903)	66
Meharry Med. Coll.	(1906) 55; (1908)	62, 72
Chattanooga Med. Coll.	(1908)	66

LICENSED WITHOUT EXAMINATION.

There were also licensed at this examination four old practitioners, including one non-graduate, who were granted license by reason of having been registered under the old law. The following colleges were represented:

College.	Year of Grad.
Louisville Nat. Med. Coll.	(1898)
Missouri Med. Coll.	(1880)
Vanderbilt University	(1897)

Arkansas Homeopathic 1908 Report.

Dr. P. C. Williams, secretary of the Homeopathic State Medical Board of Arkansas, reports the written examinations held at Little Rock April 1, July 11, and Oct. 13, 1908. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 15, of whom 4 passed, including one non-graduate, and 11 failed, including 5 non-graduates. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Hahnemann Med. Coll., Chicago	(1882) 81; (1908)	77
Kansas City Hahnemann Med. Coll.	(1908)	80

FAILED.		
College of P. and S., Dallas	(1908) 46, 48, 48, 51, 52,	70

Michigan October Report.

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Lansing, Oct. 13-15, 1908. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75, and 50 per cent. on each subject. The total number of candidates examined was 13, of whom 9 passed and 4 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Chicago Homeo. Med. Coll.	(1878)	87.4
Hahnemann Med. Coll., Chicago	(1902)	81.8
American Med. Miss. Coll.	(1906)	85.4
Johns Hopkins Med. School	(1908)	87.4
Detroit College of Med.	(1908)	80.6
University of Michigan	(1908)	83.9
Detroit Homeopathic Coll.	(1908)	85.3
Columbia Univ. Coll. of P. and S., New York	(1892)	83.2
Trinity College, Ontario	(1903)	85.6

FAILED.		
Louisville Med. Coll.	(1902)	73.9
University of Louisville	(1908)*	
Kentucky School of Med.	(1907)*	
Eclectic Med. Inst., Cincinnati	(1907)*	

* Cheated at examination—no marks allowed.

Mississippi October Report.

Dr. S. H. McLean, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, Oct. 13-14, 1908. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 101, of whom 31 passed, including 2 non-garduates, and 70 failed, including 35 non-graduates. The following colleges were represented:

PASSED. College.	Year Grad.	Total No. Exam'd.
Chicago Coll. of Med. and Surg.	(1908)	1
University of Louisville	(1908)	2
Tulane University of Louisiana	(4, 1907) (2, 1908)	6
Flint Med. Coll.	(1908)	1
Mississippi Med. Coll.	(1907) (1908)	2
Barnes Med. Coll.	(1904)	1
St. Louis College of P. and S.	(1908)	1
Cornell Univ. Med. Coll.	(1905)	1
University of Nashville	(1897) (1906) (1908)	3
Memphis Hosp. Med. Coll.	(1903) (1905) (1907) (3, 1908)	6
University of the South	(1901)	1
Chattanooga Med. Coll.	(1908)	1
College of P. and S., Memphis	(1907)	1
Vanderbilt University	(1908)	1
University of Virginia	(1905)	1

FAILED.		
Denver and Gross Coll. of Med.	(1907)	1
Hospital Coll. of Med., Louisville	(1902)	1
Louisville and Hosp. Med. Coll.	(1908)	1
University of Louisville	(1908)	1
Kentucky School of Medicine	(1908)	1
Tulane University of Louisiana	(1908)	1
Flint Med. Coll.	(1905)	1
Mississippi Med. Coll.	(2, 1907) (2, 1908)	4
St. Louis Coll. of P. and S.	(1908)	1
Syracuse University	(1890)	1
University of Nashville	(1902) (1903) (1906)	3
University of Tennessee	(1901)	1
Memphis Hosp. Med. Coll.	(1904) (1901) (1903) (1906) (4, 1908)	8
College of P. and S., Memphis	(1908)	1
Meharry Med. Coll.	(1906) (2, 1907) (4, 1908)	7
University of the South	(1907)	1
Gate City Med. Coll.	(1905)	1

Wyoming October Report.

Dr. S. B. Miller, secretary of the Wyoming Board of Medical Examiners, reports the written examination held at Laramie, Oct. 14-16, 1908. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. Only one candidate, a graduate of Trinity College, Ontario, 1887, appeared for examination and he passed with a grade of 88.3 per cent.

Medicolegal

New and Forceful Arguments Against Courts Having Inherent Power to Require Submission to Physical Examinations Before Trial.

The Supreme Court of Utah says, in Larson vs. Salt Lake City, that, on the question of the inherent power of a trial court to require the plaintiff in a personal injury case to submit to a physical examination before trial by a physician appointed by the court and, for a refusal to comply with the order to dismiss his case, the authorities are in hopeless conflict.

The courts asserting the power have quite generally held that the defendant has not the absolute right to the order, but that the motion therefor is addressed to the sound discretion of the court, and that the application should be made before entering on the trial; that the defendant has not the right to designate the physician by whom the examination is to be made, but that the examination should be ordered and conducted under the direction of the court whenever it fairly appears that important facts concerning the injury are only to be disclosed by such an examination, and that it may be made without injury to the plaintiff's health, or the infliction of serious pain, or indignity to, or an unreasonable or indecent exposure of, his person; and that while the court has no right, in the enforcement of the order, to compel the plaintiff to actually submit to the examination, the court may nevertheless, on the plaintiff's refusal to do so, dismiss the case or delay the proceeding until he complies with the order, or the court may decline to permit any evidence to be given to establish the injury. A few courts have held that, on a plaintiff's refusal to comply with the order, the court may punish him as for a contempt.

In many cases where courts have asserted the power it will be seen that the existence of the power was either assumed or merely asserted. In others, the courts, instead of discussing the source of the power, or undertaking to state by what authority such a power is exercised, have undertaken to give reasons why trial courts ought to have such a power, and why it ought to be exercised by them. The same thing is true of some text-writers.

Whenever the power of a court is invoked, in order that it may be lawfully exercised, it is essential to point to some constitutional provision or some legislative enactment or the common law authorizing it—not necessarily to some express provision or enactment, but to some provision where the right to exercise the power invoked is fairly implied, or where it may be necessarily inferred from the nature and constitution of the tribunal itself. But it was conceded in this case, and it has been many times declared by the courts asserting the power, as well as by the courts denying it, that there is no common-law precedent where such action of the court as here in question was ever exercised by law courts.

There can be no doubt that, in the absence of a statute, a law court is not authorized to compel a plaintiff, before trial, to appear before a notary public, or a commissioner appointed by the court, and there make answer to pertinent interrogatories propounded to him concerning his injuries, or concerning any other material issue in the case. If a statute is necessary to confer such a power on the court, this court does not see from what source it obtains the power to compel the plaintiff before trial to submit his person to a physical examination, and make answers to proper questions propounded to him by the physician making the examination. Or, if a statute is necessary to authorize a court to order an inspection and examination of property before trial, the court sees no good reason why a statute is not likewise necessary to authorize the court to compel a plaintiff in a personal injury case to submit his person before trial to a physical examination. The fact that a party having peculiar knowledge of a matter fails to bring it forward may raise a presumption or justify an inference in favor of his adversary's claim; or, if he withholds certain evidence with respect thereto, the inference may be justified that, if it had been produced, it would have been unfavorable to his case, but it furnishes no basis authorizing the court to make an order requiring him to divulge his knowledge before trial to his adversary, or to supply him with the means of obtaining it.

Furthermore, the power of the court to compel the plaintiff, in advance of the trial, to submit to a physical examination, in order that the defendant may ascertain the extent and character of the injuries and thus qualify witnesses, who may testify concerning them, is one thing. The power of the court, when the plaintiff has testified concerning his injuries, to compel him to exhibit the injured parts to the jury, when to do so does not involve an indecent exposure, is quite another and different thing.

If a plaintiff testifies concerning a wound on his arm, he may, in corroboration of his testimony, exhibit the wound to the jury. He may likewise be required to do so, at the request of the defendant, as a part of the cross-examination and as affecting the plaintiff's testimony. Though the plaintiff does not take the stand, but evidence has been given on his behalf concerning his injuries, he may nevertheless be called by either party and required in a proper case to exhibit the injured parts as corroborating or affecting the testimony which has been given concerning the injuries.

It may be asked why has not the court power to compel a physical examination in advance of the trial, but has power to compel the plaintiff to exhibit his wounds and injuries to the jury at the trial? The answer is simple. It is for the same reason that courts of law could not compel the inspection or production of private papers or documents in the possession or under the control of a litigant, but, if he came into court with the document or paper about him, the court could compel him to produce it. In the one instance the power to compel one suitor before trial to arm his adversary against himself or to furnish him evidence to enable him to maintain or defend his cause was not recognized; in the other, the right of each suitor was recognized to call any person possessed of facts as a witness, and to interrogate him concerning them. The plaintiff may be a witness in his own behalf. He may also be called as a witness on behalf of the defendant. He may be interrogated by either party concerning any fact within his knowledge. If he testifies concerning his injuries and is asked by either party to exhibit the injured parts to the jury, he, when the disclosure does not involve an indecent exposure, may not, any more than a witness on the stand who has been ordered by the court to produce a document in his pocket, decline to do so. The power which a court has to compel a witness to answer all proper questions propounded to him may also be exercised to compel the plaintiff to exhibit the wound or injury of which he testifies for the purpose of affecting his testimony. But to say that the plaintiff shall submit his person to a physical examination, in advance of the trial, in order that those examining him may become qualified as witnesses and be put in possession of facts theretofore unknown to them, is quite another and different thing.

Damages Recoverable for Miscarriage Caused by Injury.

The Supreme Court of Minnesota says, in the personal injury case of Morris vs. St. Paul City Railway Co., that at the time of the accident Mrs. Morris was pregnant, and the injury resulted in a miscarriage. The defendant company asked the court to instruct the jury that "damages in this case must be limited to such physical pain and suffering as was the direct result of the accident, independent of the question of the condition of pregnancy claimed on the part of the plaintiff," and that, "if you should find from the evidence that the act complained of was negligent, and that the accident resulted in a miscarriage, the damage resulting therefrom must be limited

to such damages for such suffering and pain as the plaintiff suffered in addition to what she would have suffered and endured had she carried the child to the full period. If it should appear that there was an increased or aggravated mental or physical pain and distress in connection with such miscarriage, in addition to what the mother would have suffered if the child had been born at the proper time, or that her health had been impaired thereby, then she would be entitled to recover for such additional pain and suffering as she endured, in addition to what she would have endured as a consequence of her condition. If you find from the evidence that she did not suffer any additional pain from the miscarriage over what she would have suffered, had she borne the child at the expiration of the period at the proper time, then she is not entitled to recover anything for the miscarriage."

But the rule of damages for which the defendant company contended, the Supreme Court says, finds no support in the cases, and is, in the court's judgment, unsound in principle. It is advanced by Joyce in his work on damages (section 185), but is not supported by the citation of any authority.

At the time of this accident Mrs. Morris was pregnant, but she was in a natural and normal condition of health. The miscarriage resulted from the negligent act of the defendant company, and it should be required to pay the damages which resulted naturally and directly from its negligent acts. The fact that Mrs. Morris would, in the natural course of events, suffer more or less pain and anguish at the birth of her child, could not be properly taken into consideration. It was too remote, speculative, and uncertain to be taken as a basis for estimating damages. Her possible future suffering had no connection whatever with the suffering which resulted from the negligent act of the defendant company.

In other words, the court holds that when an injury to a woman results in a miscarriage she is entitled to recover such damages as will fairly compensate her for the pain and suffering occasioned by the miscarriage, but not for the pain and suffering occasioned by the loss of the child. The pain and suffering which the mother would have suffered when the child was born in the natural course of events can not be deducted from the pain and suffering occasioned by the miscarriage, which resulted from the defendant's negligence.

The verdict in this case, for $4,000, the court says was large; but, in view of the nature of the injuries and the impossibility of measuring the damages in such a case by any exact rule, the court can not say that it was so large as to suggest that it was the result of passion and prejudice on the part of the jury.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

November 26.

1 *Relation Between Human and Animal Tuberculosis with Special Reference to the Question of the Transformation of Human and Other Types of the Tubercle Bacillus. T. Smith, Boston.
2 *Certain Evil Tendencies in Medicine and Surgery. M. H. Richardson, Boston.
3 *Comparative Value of Change of Climate and of Treatment in Sanatoria Near at Hand in Cases of Pulmonary Tuberculosis. C. E. Edson, Denver.
4 Sporadic Trichinosis: with Report of Case. W. R. Steiner, Hartford, Conn.
5 Bursitis Subacromialis, or Periarthritis of the Shoulder-Joint (Subdeltoid Bursitis.) (Continued). E. A. Codman, Boston.

1. Abstracted in THE JOURNAL, Oct. 10, 1908, p. 1259.

2. Evil Tendencies in Medicine and Surgery.—Richardson is struck by the widespread tendency at present toward hasty and ill-considered diagnosis, as contrasted with the thoroughness displayed in the clinical reports published in 1828 and 1829. He complains of the resort to the knife as the first step rather than the last, that makes, in his opinion, one of the most prolific of the evil tendencies of the time. The results of incomplete study are seen in those operations, which through either incorrect diagnosis or ill-considered indications, prove their own uselessness. He discusses wherein adequate study lies, and—contrary to the usual opinion, that facts are correctly observed, but conclusions drawn are not logical deductions—he believes that, as a rule, the conclusions are correctly drawn, but the observations themselves are incorrect. The extremeness of radical surgery—and this is sometimes more pronounced in strictly medical men than in surgeons—is exemplified by a case of an obscure swelling of the whole right lower extremity, in which the physician proposed; and this to the patient, not the surgeon, that the femoral vein should be cut down on and the thrombus removed. This, Richardson refused to do, as having nothing in common sense, practice, experience or experimentation, to commend it. While realizing that great advances in surgery have been made in the face of bitter, and as we now know unreasonable, opposition, Richardson defends this opposition as essential to wise and sure progress. If the example of McDowell had encountered no opposition there would have been an awful mortality and the progress of modern ovarian surgery would have been set back 100 years. He protests against the tendency toward operative diagnosis as tending to make ordinary diagnosis slipshod and inaccurate.

Medical Record, New York.

November 28.

6 *Differentiation of Outbreaks of Typhoid Due to to Infection by Water, Milk, Flies and Contacts. J. F. Anderson, Washington, D. C.
7 Rocky Mountain Spotted Fever. A. A. Robinson, Ogden, Utah.
8 Impressions Derived from a Visit to the Warm Springs of Virginia. A. H. Buck, New York.
9 Cholecystitis, with Suggestions for Prevention of Gallstones. H. W. Bettmann, Cincinnati.
10 Case of Syringomyelia. L. S. Manson, New York.

3. Abstracted in THE JOURNAL, Oct. 10, 1908, p. 1254.

6. Differentiation of Typhoid Outbreaks.—Anderson lays down the following characteristics of outbreaks of typhoid due to water:

1. General distribution of cases throughout the areas supplied by a particular water.
2. Explosive onset of the outbreak.
3. Seasonal prevalence: spring or late winter.
4. Comparative freedom from the disease of persons not using the suspected water.
5. Inspection of the watershed shows evident sources of infection.
6. The outbreaks may have begun or ended following a change of the water supply.
7. Bacteriologic and chemical examination reveals evidences of pollution.
8. Exclusion of all other probable causes.

The following points indicate strongly that the infection is being introduced through the milk:

1. Sudden outbreak of an unusual number of cases followed by a rapid decline.
2. The appearance of an unusual number of cases among the customers of a certain dairy.
3. Unusual incidence of cases among users of milk.
4. More cases among the well-to-do than among the poor.
5. The finding of the typhoid bacillus in the suspected milk.

The chief characteristics of outbreaks of typhoid due to transmission by flies and by contact are their local character, their appearance in places where the sanitary conditions are poor or where they are neglected, occurring during the fly season, in the case of fly transmission and among those most closely associated with the patient. There have been reported in the literature many interesting outbreaks of typhoid due to conveyance of the infection by oysters and other shellfish, fruits, vegetables, ice cream, watercress, celery, ice, etc.

New York Medical Journal.

November 28.

11 *The Red Cross in the Antituberculosis War. S. A. Knopf, New York.
12 *International Classification as Applied to Morbidity Returns. C. F. Mason, Washington, D. C.
13 At What Age Periods and in What Measure Has the Reduction in the Mortality Rate from Tuberculosis Manifested Itself in the City of New York During the Past Forty Years? W. H. Guilfoy, New York.
14 *New Method for the Transfusion of Blood. R. T. Frank, New York.
15 *The Public Health Plank. C. E. Wood, Chicago.
16 *Iron (Concluded). J. Knott, Dublin, Ire.
17 Adiposis Dolorsa with Involvement of Large Nerve Trunks. P. N. Bergeron, Philadelphia.

11. Antituberculosis War.—Knopf describes the work done by the German Red Cross in the fight against tuberculosis

and urges activity of the American Red Cross in the same direction. He pleads for support for the Red Cross Christmas stamp (see THE JOURNAL, Nov. 14, 1908, p. 1720), and believes that it will lead to a tuberculosis sanatorium with a pavilion for every state.

12. **The International Classification.**—Mason suggests the adoption of the international classification of the causes of death in use in the Army since 1904 for morbidity uses. He reproduces the tables with certain suggested changes.

14. **Transfusion of Blood.**—Frank describes in detail a new method of transfusion at present tried only on animals. It consists essentially of the use of a link, made from the carotid of a dog, between the artery of the donor and the vein of the recipient, instead of dissecting out and uniting the two vessels directly. Frank has shown that an animal blood vessel does not tend to induce clotting during the transfusion.

15. **Public Health Plank.**—Wood discusses the proposition to create a public health department and urges in opposition thereto the Hepburn bill for the extension of the duties of the U. S. Public Health and Marine-Hospital Service. He quotes almost *in extenso* a paper on the Public Health and Marine-Hospital Service by Surgeon G. B. Young.

16. **Iron.**—Knott concludes a learned dissertation on iron, metallic and magnetic, physical and philosophic, its place in mythology, demonology, astrology, and in medical and surgical therapeusis, which was begun in the issue of November 14. His practical conclusions are that our most reliable and clinical data have been furnished by empirical observations—not by scientific experiment or physical demonstration. While iron is specific in the anemia of chlorosis it is not equally trustworthy in other varieties of anemia. To obtain its advantages, the bowels must be kept open throughout. The combination with arsenic, in the author's personal observation, best secures advantageous results. The bird's eye historical view furnishes many instances of anticipation of modern practice. Knott hopes to aid in checking the prescription of "tonic" iron in the anemia of intestinal irritability of tuberculous disease, to say nothing of the respective associations of fever, infancy and senility.

Lancet Clinic, Cincinnati.

November 21.

18 *Clinical Conclusions as to the Value of Vaccine Therapy in Surgical Infections. J. C. Hollister, Chicago.
19 *Ignorance of the Significance of Middle Ear Disease. H. M. Hays, New York
20 Extrauterine Pregnancy. W. D. Hamilton, Columbus.

18. Abstracted in THE JOURNAL, Oct. 31, 1908, p. 1535.

19. **Ignorance and Middle-Ear Disease.**—Hays complains of carelessness in carrying out orders of the general ignorance of the seriousness of ear conditions, aside from pain and discharge, and of fear of operation. The last is largely eliminated in large cities; the two former factors disappeared only when a pain in the ear becomes to patients as significant of possible mastoid disease, as a pain in the right side is of appendicitis.

Medical Fortnightly, St. Louis.

November 25.

21 *The Prostate as a Factor in Nervous Disease. J. L. Boehm, St. Louis.
22 Threapeutic Treatment of Typhoid from Beginning to End. C. F. Wahrer, Fort Madison, Ia.

21. **The Prostate and Nervous Disease.**—Boehm discusses syphilis of the prostate, the relation of the prostate to the spinal cord, neuralgia of the prostate, sexual neurasthenia, the medical aspect of rape and criminal assault, and the medicolegal state of sexual perversion. He concludes as follows:

1. The prostate and its appendages when diseased have a special influence on the nervous system, in close similarity to the nervous sequelæ of the diseased female pelvis.
2. The prostate and seminal vesicle are to the neurotic male what the uterus and tubes are to the female, and must always be carefully examined in neuroses.
3. Apparently simple disturbances of the prostate may cause serious reflex neurotic conditions, because of the complexity of the nervous mechanism surrounding and supplying it.
4. The question of an internal physiologic secretion, and the possibility of the lecithin and organic constituents of prostatic secretion serving as a nutritive factor to nerve metabolism, has not yet been scientifically determined.
5. Spinal asthenia and cerebral exhaustion are commonly and often ascribed to overwork at the office or in literary pursuits, but not always recognized as dependent on a diseased prostate.
6. In cases of sexual crimes and criminal perversion, an intrapelvic and extrapelvic examination of the genitalia of the accused should be made by expert urologists, at the same time that the expert neurologists examine the mentality of the accused.
7. Jurists should recognize the mental condition of the fiend or pervert who commits sexual crimes, as not always due to a hereditary taint, but probably as commonly the result of some previous urethral disease, uncured at the time. From this chronic diseased condition sexual mania results.
8. There is a medical aspect to the recent lynchings and riots, because the fiends responsible for them are diseased and are not human monstrosities. Temporary sexual insanity is a reality as much deranged mentality caused by typhoid fever or some condition of hyperpyrexia.

Journal of Experimental Medicine, New York.

November.

23 *Relation of Lesions of the Adrenal Gland to Chronic Nephritis and to Arteriosclerosis; An Anatomic Study. R. M. Pearce, Albany, N. Y.
24 Experimental Reduction of Kidney Tissue with Special Reference to the Changes in That Remaining. J. A. Sampson and R. M. Pearce, Albany, N. Y.
25 *Occurrence of Catalase in Human Tissues and Its Variations in Diseases. M. C. Winternitz and C. R. Meloy, Baltimore.
26 The Effect of Complete Anemia of the Central Nervous System in Dogs Resuscitated After Relative Death. G. Crile, Cleveland, Ohio, and D. H. Dolley, Chapel Hill, N. C.
27 Reactive Cell Proliferation in the White Rat; and Its Relation to the Genesis of Transplantable Tumors. I. Levin, New York.
28 Factors in the Physiology and Pathology of Gastric Secretion. N. B. Foster and A. V. S. Lambert, New York.

23. **Lesions of Adrenal Gland.**—Pearce shows that hyperplasia of the adrenal is an almost constant lesion in arteriosclerosis associated with chronic interstitial nephritis and left-sided hypertrophy, and that it occurs with almost equal frequency in arteriosclerosis with chronic nephritis of the parenchymatous type, and that it is also a frequent lesion of arteriosclerosis without nephritis and of nephritis without arteriosclerosis. Adrenal hyperplasia is consequently probably the result of some factor active in a period of life in which these affections are most frequent. The adrenal lesion consists of increase of connective tissue, round cell infiltration, increase in the thickness of the vascular wall and hyperplasia of the adrenal cells proper.

25. **Catalase in Human Tissues.**—Winternitz and Meloy find that the catalytic activity of human tissues varies greatly in disease. In nephritis the kidney always shows the most marked reduction in its power to decompose hydrogen peroxid, although other tissues, including the blood, may also show some decrease in this power. The activity of the blood in two cases of eclampsia was not reduced, and this is regarded as an important fact, because if it can be substantiated it will furnish a ready means of differentiating between eclampsia and nephritis.

Annals of Surgery, Philadelphia.

November.

29 *Use of Ethyl Chlorid as a General Anesthetic in the Pennsylvania Hospital. W. E. Lee, Philadelphia.
30 Ludwig's Angina. J. W. Price, Louisville, Ky.
31 *Tumors of the Breast in Childhood. J. H. Jopson, J. Speese and C. Y. White, Philadelphia.
32 Biliary Calculus Weighing Two and One-half Ounces Removed from the Common Duct. W. Bartlett, St. Louis.
33 Acute Dilatation of the Stomach Complicating Typhoid. C. Wilson, Birmingham, Ala.
34 *Acute Hematogenous Infection of One Kidney in Persons Apparently Well. F. Cobb, Boston.
35 *Renal and Ureteral Surgery. D. N. Eisendrath and M. Herzog.
36 *Arthroplasty for Complete Ankylosis of the Elbow. C. L. Scudder, Boston.
37 Surgical Conditions in the Knee-Joint. B. Tenney, Boston.
38 *Operative Treatment of Fracture of Neck of the Femur in Adults. C. P. Flint, New York.
39 *Conservative Treatment of Fractures of the Femur. A. P. C. Ashhurst and W. A. Newell, Philadelphia.
40 Non-Tuberculous Osteomyelitis of the Os Calcis. J. G. Sheldon, Kansas City.
41 Silverized Catgut—The Argyrol Method. T. R. MacClure, Detroit.

29. **Ethyl Chlorid.**—Lee discusses the use of ethyl chlorid in general anesthesia on a basis of 5,575 cases between December, 1907, and June, 1908. It was used alone in 947 cases with ether in 4,148, and with various other anesthetics in the remaining cases. The youngest patient was 24 hours old, the oldest 84 years old. The fatalities were 5, all of them occurring when ethyl chlorid was used alone. The fact that the ethyl chlorid was given first and in all the cases in which

the patients were considered bad anesthetic risks distorts the statistics. Three deaths occurred under ether during its administration alone in 1,444 cases. The facts that ethyl chlorid can produce deep anesthesia in from 15 to 20 seconds, and that its danger signs are so easily overlooked, are emphasized. In alcoholics and some others it produces muscular spasm and rigidity. Its advantages, however, are tempting. There is no respiratory irritation, its action is rapid and the lessening of the amount of ether requisite in combined anesthesia saves the excretory organs. It is still used in the hospitals for minor surgical procedures, the dressing of the more painful wounds, and in combination with both ether and chloroform.

31. **Breast Tumors in Childhood.**—Jopson, Speese and White conclude that breast tumors, though rare in childhood, occur in both sexes and at all ages. The benign tumors are more frequent than the malignant tumors. Fibroepithelial growths are most common, then angiomata. Sarcoma occurs, but is rare. Carcinoma hardly ever occurs before puberty. Girls are more frequently affected than boys. Angiomata are commonly congenital; fibroadenomata develop with the approach of puberty. The small benign tumors occasionally cause no inconvenience. At other times, pain, tenderness, or discomfort from excessive weight or size are present. Sarcomata usually present their customary symptoms. Operation is usually indicated in the benign and always in the malignant varieties. In small benign tumors or those involving only limited areas, conservative plastic operations with preservation of breast and nipple are indicated; in a goodly number, however, the breast must be sacrificed. The axilla should be cleaned if it contains enlarged glands. The results of operation are good.

34. **Kidney Infection in Apparently Healthy Persons.**—Cobb points out that it is not well understood by the profession, that in persons apparently in good health septic infarcts of the kidney may be caused by bacteria, usually colon bacilli, circulating in the blood, and that the acute cases of this form of hematogenous infection can present a typical picture of certain of the grave abdominal emergencies—appendicitis, cholecystitis or visceral perforation, with abdominal tenderness and rigidity, vomiting, high pulse, temperature and leucocytosis. In persons apparently well the onset is usually acute and without warning. The course of the disease may be rapid, with increasing toxic symptoms, or after an acute onset the patient may go for weeks or months in a septic condition. The very acute cases are the ones which simulate most closely abdominal infections.

35. **Renal and Ureteral Surgery.**—Eisendrath and Herzog discuss multiple ureteral calculi, complicated by hypoplasia of the opposite kidney; renal lipoma *"ex vacuo"*; and rupture of the kidney.

36. **Ankylosis of the Elbow.**—Scudder reports a case of arthroplasty for complete ankylosis of the elbow, in which a year and a half after operation the joint was strong and serviceable—a little loose, but not a flail joint. On contraction of muscles the joint is as firm and secure as a normal one. The power of extension is preserved. The flail joint of an ordinary excision is to be avoided. A stable joint with power in extension is desirable. Power in flexion is naturally present. An arthroplasty preserves power in extension. Arthroplasty is especially applicable to the elbow joint—less so he thinks to the knee and hip.

38. **Fracture of the Neck of the Femur.**—Flint concludes that the conservative aim must as yet consist in an endeavor to obtain ankylosis. There will be some shortening and objective lameness, largely offset, however, by compensating tilting of the pelvis and lumbar curve of the spine. The least desirable result is to have the femur escape from the acetabulum and become displaced upward. The majority of the patients having had an excision will derive benefit, whereas the outcome of a pegging operation is far more doubtful and should therefore be limited strictly to the very few cases.

39. **Fractures of Femur.**—Ashhurst and Newell have studied 121 recent fractures of the femur in the Episcopal Hospital during the last three years, in which conservative treatment was employed of such a various nature as to be fully representative—longitudinal traction by Buck's extension apparatus with and without sand bags. Volkmann's sliding splint, the double inclined plane, Smith's anterior splint, and more complicated appliances. They conclude that, with the exception of four patients, the results of the conservative treatment of fractures of the femur, excluding those of the neck, were satisfactory; and they very much doubt whether operative treatment of such cases could do more than give entirely useful limbs in 90 per cent. of cases, and leave only one out of every three patients with no other functional impairment than a limp.

Journal of the Medical Society of New Jersey, Orange.

November.

42 *Acute Perforating Gastric and Duodenal Ulcer. E. Eliot, New York.
43 *Anterior Poliomyelitis. D. T. Bowden, Paterson, N. J.
44 *Modern Methods of Treatment of Posterior Displacements of the Uterus. J. W. Martindale, Camden, N. J.

42. Published in the *American Journal of Surgery*, October, 1908.

43. This article will be abstracted in the Department of Therapeutics.

44. Abstracted in THE JOURNAL, Aug. 22, 1908, p. 750.

Ohio State Medical Journal, Columbus.

November.

45 *Relative Indications for Cesarean Section. C. N. Smith, Toledo.
46 Roentgen Examination of the Esophagus. S. Lange, Cincinnati.
47 *Relation of Increased Blood Pressure to Cerebral Hemorrhage. C. W. Sawyer, Marion, Ohio.
48 *Exophthalmic Goiter: Present Status of Its Medical and Surgical Treatment. F. Warner, Columbus.
49 Cystitis from a Medical Standpoint. A. J. McCracken, Bellefontaine.
50 Psoriasis. V. P. Boreing, Lima, Ohio.
51 Uterine Action in Dry Labor. A. J. Skeel, Cleveland.
52 Infant Feeding. Comparison of Modern Ideas. A. J. Bell, Cincinnati.

45 and 48. Abstracted in THE JOURNAL, May 23, 1908, p. 1721.

47. **Blood Pressure and Cerebral Hemorrhage.**—Sawyer reports 16 cases of cerebral hemorrhage, in which blood pressure examinations were made, and summarizes practically as follows:

1. Patients with high tension pulse, no kidney lesion, and no previous hemorrhage are least likely to suffer from increased pressure.
2. Patients with kidney lesions which will not respond to treatment or whose blood pressure will not lessen, are liable to fatal uremia.
3. Nephritic patients with increasing blood pressure are especially liable to cerebral hemorrhage.
4. Increased blood pressure without a kidney lesion is more liable to terminate in hemiplegia than the one with such lesion.
5. Nearly half of all patients with increased blood pressure have hemiplegia; 50 per cent. have hemorrhages.
6. A second hemorrhage with hemiplegia due to hemorrhage already existing, but with no kidney lesion, is usually fatal.
7. Patients with nephritis and increased blood pressure are as liable to succumb to the second hemorrhage as to live.
8. Second hemorrhage occurring when both hemiplegia due to a former hemorrhage and nephritis exist are seldom fatal.

From this summary they conclude that while increased blood pressure bears a striking relation to cranial hemorrhage, it must not be used as an infallible sign of such an occurrence, but must be weighed in relation to other existing conditions.

Texas Journal of Medicine, Fort Worth.

November.

53 *(a) Intra-Abdominal Adhesions: (b) Can We Diagnose Foreign Substances in the Appendix? B. Saunders, Fort Worth.
54 Tuberculosis as a State Problem. R. L. Combs, Kerrville.
55 Importance of Autopsy Work in General Practice. J. M. Frazier, Belton.
56 Three Unusual Cases of Appendicitis. C. W. Trueheart, Galveston.

53. **Foreign Bodies in the Appendix.**—Saunders contends that a close scrutiny of the history of every case of appendicular complaint, together with a careful physical examination, will enable any really competent abdominal diagnostician to say with as much confidence that there are foreign bodies in the appendix, as he could for similar reasons forecast the presence of stones in the gall bladder.

Montreal Medical Journal.

November.

57 *Study of Thomsen's Disease (Congenital Myotonia) by a Sufferer from It. A. Birt, Halifax, N. S.
58 Chorioepithelioma Malignum. F. A. L. Lockhart, Toronto.
59 The Gonococcus as a Factor in Infection Following Abortion or Full Term Delivery. F. B. Gurd, Montreal.
60 Uterine Inversion. D. Patrick, Montreal.
61 Autotoxemia of Pregnancy. H. L. Reddy, Montreal.
62 Cesarean Section. R. E. Webster, Ottawa.

57. **Congenital Myotonia.**—Birt gives an interesting study of Thomsen's disease in his own person. He first discovered it while a medical student, and the diagnosis has since been amply confirmed by experts. The condition consists essentially of a painless cramp, affecting groups of voluntary muscles when an effort is made to bring them into place. There results a sluggishness of action, which, however, wears off if the action continues to be repeated without intermission. In the author's case all voluntary movements are more or less affected, in proportion to the bulk of the muscular group involved. Other authorities to the contrary notwithstanding, Birt is convinced that the following factors are important in regard to the production of cramps: Prolonged rest of muscles; sudden and forcible attempt at contraction; mental excitement and emotion; direction of attention to it; cold and fatigue tend to aggravate the spasm at inception of movement. Small doses of alcohol diminish its severity. He considers that the disease is primarily a congenital functional defect in the mechanism of inhibition. Owing to the faulty functioning of the neurones concerned, the muscles at rest are kept in a state of hypertonus, and on attempting suddenly to contract a muscular group, the inhibitory "brake," so to speak, can not be taken off rapidly enough. This delay would represent the prolonged latent period and the moderately slow contraction. On attempted relaxation the disorder of inhibition is more than ever in evidence—the "brake" is taken off with greatly increased difficulty, and thereby is explained the persistence of the contraction and the remarkedly slow relaxation. The more powerful the contraction, the greater the inhibitory difficulty. The hypertrophy of the muscles would thus be a secondary development, dependent (a) on the state of hypertonus (kept up by the overactivity of the inhibitory mechanism) during rest; and (b) on the prolonged contractions and delayed relaxations constantly repeated. It is conceivable that the trouble might be aggravated by the excessive accumulation of the products of muscle waste during the prolonged contractions. This view would make the defect in Thomsen's disease comparable to that in stammering, and class it as a neurosis of the whole psychomotor tract. It accounts easily for the aggravation caused by depressing mental emotions, cold and fatigue, and the relief under the opposite conditions. The wearing off of the spasm on repetition of the movements would be explained by a rapid exhaustion of the excessive inhibitory impulses; and the early fatigue by the excessive accumulation of the products of muscle waste. The longer the period of rest, the greater the rapidly renewed power of the inhibitory "brake," and, consequently, the greater the tonic spasm on voluntary movement requiring powerful willing to overcome it. Birt is convinced of the important rôle played by the nervous system. Too little stress has been laid on other neuroses in the different family groups. In his own case, one sister deceased, showed it in a severe general form, one suffers from traces of it and two male maternal cousins also suffer from it; the nervous element predominates in the family. As regards prognosis, two points are of importance: First, the earlier in youth the diagnosis is made the more important in the choice of an occupation; and second, the subjects are in more than ordinary danger of accident, as the sudden movement to get out of harm's way is often impossible. In treatment, nothing has proved of any avail.

Buffalo Medical Journal.

November.

63 *Sociologic Medicine. J. Ullman, Buffalo.
64 *Municipal Contagious Disease Hospitals—Their Medical and Financial Importance to the Community. R. J. Wilson, New York.

63. **Sociologic Medicine.**—Ullman emphasizes the need of a public health department in the cabinet, discusses the mortality of infant life, the newspaper alliance with quackery, the teaching, not only of hygiene and philosophy, but of social science and economics, in schools, the tenement evil, factory evils, the social evil, and the Food and Drugs Act. He points the moral of sociologic medicine as follows: The lesson must be brought home to the people, that they are responsible for much of the disease and suffering, and so it is now important to study the relations of home surroundings to disease.

64. **Municipal Contagious Disease Hospitals.**—Wilson urges the importance to communities of municipal contagious disease hospitals, and cites the Willard Parker Hospital in New York as an evidence of their importance and value. He discusses the cost and the economic relations of the hospital, and as to its situation he says it is not necessary to hunt for some secluded spot; the hospital should be so centrally located that ambulance calls will be as short as possible. The appellation, pest house, is responsible for much expense and distress. It calls up to mind loathsome things, things dangerous, to be avoided, and to be afraid of. Contagious diseases are not loathsome, and are not more dangerous when properly administered than other communicable diseases.

Louisville Monthly Journal.

November.

65 *Currents and Countercurrents in Medical Advance. A. R. Elliott, Chicago.
66 *Kidney Surgery. A. D. Bevan, Chicago.
67 *Tropical Diseases and the Mississippi Valley. G. Dock, New Orleans.
68 The Surgical Pendulum: A Plea for Conservative Surgery. W. F. Sterman, Winterset, Ia.

65, 66, 67. Published in *Lancet Clinic*, Oct. 17, 1908, and abstracted in THE JOURNAL, Nov. 7, 1908, pp. 633, 634.

Journal Tennessee State Medical Association, Nashville.

November.

69 Pure Food and Drug Inspection. L. P. Brown, Nashville.
70 *Secondary Repair of Complete Perineal Laceration. C. E. Ristine, Knoxville, Tenn.
71 Diseases of the Frontal Sinus and Their Surgical Treatment. C. M. Capps, Knoxville, Tenn.
72 *Movable Kidney, W. D. Sumpter, Nashville.

70. Abstracted in THE JOURNAL, April 25, 1908, p. 1372.

72. Abstracted in THE JOURNAL, May 2, 1908, p. 1454.

Medical Herald, St. Joseph, Mo.

November.

73 Pyloric Stenosis in Infants. H. M. McClanahan, Omaha.
74 *Regulation of the Practice of Medicine by the State. J. T. Clegg, Siloam Springs, Ark.
75 Relation of Heredity and Environment to Life Expectancy. L. H. Montgomery, Chicago.
76 Complications and Treatment of Granulated Lids. B. Pitts, St. Joseph.

74. **State Regulation of Medicine.**—Clegg urges that each state should employ a sanitary commission which should be the paid adviser and counsellor of the people on all matters pertaining to public health or the prevention of disease, and should pass on the qualification of every one who may attempt to practice medicine by any system or method whatever; each state should endow a medical school for the better education of its medical students; and the medical profession should disseminate more information among the people.

Providence Medical Journal.

November.

77 Case of Pneumococcus Arthritis. G. S. Mathews, Providence.
78 *The Medical Examiner for Life Insurance; A Discussion of His Function in the Selection of Risks as Practiced in Modern Scientific Life Insurance. E. D. Chesebro, Providence.
79 Cardiac Disease and Tuberculosis in Relation to Pregnancy. H. G. Partridge, Providence.
80 Tumor of the Spinal Cord and Suppurative Pachymeningitis Externa. J. E. Donley, Providence.

78. **Medical Examiner.**—Chesebro discusses the principles of life insurance, the function of the medical examiner, and the defects of medical examiners. To overcome the last matter he suggests special education in the subject.

Annals of Otology, Rhinology and Laryngology, St. Louis.

September.

81 Recurrent and Abductor Paralysis of the Larynx. Introductory Remarks on Anatomy and Physiology. Etiology of Paralyses of Central Origin. J. W. Gleitsmann, New York.

82 Recurrent and Abductor Paralysis of the Larynx, Diagnosis and Treatment. W. E. Casselberry, Chicago.
83 Etiology of Paralysis of the Recurrent Laryngeal Nerves of Peripheral Origin. D. B. Delavan, New York.
84 Etiology of Otosclerosis. T. J. Harris, New York.
85 Pathology and Prognosis of Chronic Progressive Hardness of Hearing—Otosclerosis. W. S. Bryant, New York.
86 Symptoms and Diagnosis of Otosclerosis. G. E. Shambaugh, Chicago.
87 Nonacoustic Functions of the Labyrinth: Review of Present Knowledge of the Organs of Static and Dynamic Equilibrium. P. Fridenberg, New York.
88 Chronic Recurrent Suppurative Otitis Media and Its Relation to Mastoid and Intracranial Complications. S. M. Smith, Philadelphia.
89 Surgical Principles Essential to the Cure of Frontal Sinus Empyemas. J. F. Barnhill, Indianapolis.
90 Acute Suppuration of the Labyrinth Following Acute Otitis Media—Operation; Recovery. E. B. Dench, New York.
91 *Black Hairy Tongue (Lingua Villosa Nigra). N. R. Blegvad, Copenhagen, Den.
92 Papilloma of the Larynx in Children. J. P. Clark, Boston.
93 Diagnosis of Otitic Brain Abscess. T. Heimann, Warsaw.

91. **Black Hairy Tongue.**—Blegvad gives an exhaustive study of black hairy tongue (*lingua villosa nigra*), based on 128 cases by 88 authors, to which he adds 10 cases from the Municipal Hospital of Copenhagen. On the back of the tongue of an otherwise healthy individual is found a brownish-black spot, just in front of the circumvallate papillæ and extending forward to about one inch from the tip. The spot is symmetrically arranged on each side of the median line, and the borders and tip of the tongue are covered with a whitish fur. The spot owes its appearance to long hairs, the prolonged papillæ filiformes. These have a length of from ¼ to ½ inch and are longest posteriorly and on both sides of the sulcus medianus linguæ. Thus the middle of the tongue may appear very deep as though defective. The surface of the tongue can be compared to a wet, long black-haired dog, or to a wet silk hat. The hairs are directed forward, and if the tongue is rubbed in the opposite direction the appearance just mentioned is noticed. The surface of the tongue is slimy and on the base and between the papillæ vallatæ there is a whitish fur that resembles thrush. On scraping the black spot the prolonged papillæ are easily cut off and do not leave a bleeding surface. They are conical, are black only at the apex of the cone, thick and gray at the base, and float in an opaque mucous fluid. The disease often presents no symptoms. At other times disagreeable and severe symptoms are present—dysesthesia and paresthesia of the tongue; sensation of dryness, tickling, etc., sometimes pain in the tongue or the gums; in some cases taste is weakened, in others increased to the extent of pain; *fetor ex ore*. Sometimes it lasts a few days, sometimes several months or years. Black tongue is only a symptom that in certain conditions accompanies different and acute chronic diseases. Blegvad discusses the pathology and says that he tried to cultivate a mould from the tongue, but while in all cases colonies of white and gray micro-organisms developed, there were no black or brown moulds. He discusses the etiology at considerable length and expresses his opinion that the disease originates in those persons with normally well-developed filiform papillæ which have become prolonged and stained from without. The hypertrophy may be due to irritation, nutritive disturbance, mouth-breathing, perhaps bacteria. The coloring he considers due to food and wine, tobacco, especially chewing, and drugs. Mouth-breathing may also play a part. He insists on the importance of tobacco in the etiology, and suggests the use of opium as a possible cause. He does not consider that there is any essential difference between black tongue and the ordinary furred tongue.

American Journal of Urology, New York.

November.

94 Formation of Calculi After Prostatectomy. E. Loumeau, Bordeaux, France.
95 Intravesical Operations without Knife or Anesthetic, with Special Reference to the Removal of Benign Tumors. H. Meyer, San Francisco.

Memphis Medical Monthly.

November.

96 The Heath Mastoid Operation. R. McKinney, Memphis.
97 Early Diagnosis of Pulmonary Tuberculosis. B. W. Fontaine, Memphis.
98 Immediate Results in a Case of Implantation of the Median Nerve. W. H. Baldwin, I. C. and Y. & M. V. R. R.
99 Advantages of Postgraduate Work in Europe. A. C. Lewis, Memphis.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

November 14.

1 *Clinical Examination of the Urine with Especial Reference to the Estimation of Urea. A. Foxwell.
2 Treatment of Acute Inflammatory Conditions by Bier's Hyperemia. G. B. Buchanan.
3 *Novel Method of Operation in the Removal of Malignant Tumors. H. Manders.
4 *Pathology and Treatment of General Paralysis and Tabes Dorsalis. W. F. Robertson.
5 *Typho-Bacillose. L. Landouzy.
6 Two Interesting Cases of Intussusception. R. F. Jowers.

1. **Examination of Urine.**—Foxwell discusses the physical, chemical and microscopic examination of the urine, and points out that such occasional examination is apt to be fallacious when individual findings are relied on, since all healthy organs can do work considerably beyond what they are normally required to do. He uses a system of average analyses, and as the result of a series of investigations made in patients suffering from various diseases, he considers specific gravity 1012, amount 50 ounces, urea 1.4 per cent., 310 grains, as the lowest average analysis which would enable a man to go about doing a moderate amount of work in the world. The lowest which would enable a man to get up and do light work which did not necessitate regular attendance, he considers 1011, 45, 1.2, 238, for such a man would often be invalided; while an analysis as low as 1010, 40, 1.0, 175 would necessarily confine him to bed; or if he got up, his manufacture of waste material would be greater than his removal of it, so that often severe breakdowns would occur, during which his nitrogenous intake would have to be of the smallest to enable equilibrium to be once more established. This is for men. Women would have a smaller excretion, but this decrease is shown, not in the strength of the solution, but rather in its amount. For the women with healthy kidneys had an analysis of 1019, 28, 1.8, and the men of 1019, 39, 2.1. The female kidney does work of equal quality, but of smaller quantity. There is nothing more striking than this maintenance of quality by the healthy organ; if there is less urea to be excreted, then the quantity of urine is lessened, not the strength of the solution. Hence the urea percentage and the specific gravity are the two important factors which indicate the degree of kidney damage. A patient with damaged kidneys promptly calls on the heart for aid, and his strength depends on the functioning power of both these organs, and not on the kidney alone. The increased cardiac action, by increasing the flow of blood through the kidneys, will enable these to secrete a greater quantity in any given time and so make up for the lessened quality.

3. **Operation for Malignant Tumors.**—Manders discusses the combined surgical and electrical treatment for cancer by Keating-Hart, termed by the author sideration (treatment by flashes) and renamed by Poggie "fulguration." The novelty in fulguration consists in the application of oscillatory electricity in combination with actual surgery. He describes the Keating-Hart apparatus and the two methods used, incorrectly termed bipolar and unipolar, respectively. Manders adds a third or intermediate method, not mentioned by Keating-Hart or others, in which the patient is treated by one phase and the other is supplied from the floor, walls, etc., of the room by connecting the proximal end of the inductance coil to the earth. The operation is divided into four stages: 1. The surgeon divides the tissues and lays bare the neoplastic masses without separating them. 2. The tumor is fulgurated by the strongest sparks so as to produce the greatest possible effect in the shortest time. The duration of this is from "a few minutes up to ten." 3. The surgeon excises the growth. 4. Fulguration again. Manders discusses the views of various authors and enumerates the demerits of the method, and adds: If fulguration has in any way reduced to a minimum the recurrence of cancer after operation the combined operation is fully justifiable and must be regarded as a distinct gain in treatment. The disadvantages, he says, may be obviated by a new method which he terms electroscision. The essence

of the technic is the utilization of the continuous and undamped oscillations of electricity instead of the intermittent and rapidly damped trains of oscillations employed in the production of fulguration. The principal differences between the two are that in fulguration the spark really resembles forked lightning in its discharge, for a violent stream of sparks springs from the electrode to the most salient points opposed to it, so that it is possible for a germ lying in a sulcus, or even well in the open, to escape its destructive influence. Like lightning, too, the spark is intermittent. Just as the condenser cloud has to be charged up again to the breaking point before another flash can occur, so must time elapse until the Leyden jars are again recharged by the coil or by the transformer, whichever is used. He describes the apparatus, which is extremely simple and much less cumbersome, and refers for a technical description to the *Journal of the Roentgen Society*, No. 17, Vol. 4.

4. **Tabes Dorsalis.**—After discussing the pathology of this condition, Robertson states that the facts recently observed have served to establish more securely the conclusions that general paralysis and tabes dorsalis are dependent on the presence of specific infective foci, primarily localized in the nasopharyngeal and oral mucosæ in the one case and in the genitourinary tract in the other, and that in both diseases the bacterial and toxic invasion is essentially lymphogenous, as maintained by Orr and Rows on the ground of their experimental work.

5. Abstracted in THE JOURNAL, Oct. 17, 1908, p. 1359.

British Medical Journal, London.

November 14.

8 *Arteries, Normal and Pathologic. J. A. MacWilliam and A. H. Mackie.
9 Normal Venous Pulse. T. Lewis.
10 *Case of Adams-Stokes' Syndrome Observed for More Than Eight Years. W. H. Turrell and A. G. Gibson.
11 Plumbic Ocular Neuritis in Queensland Children. J. L. Gibson.
12 *Influence of the Nervous System on Infective Processes. G. L. Cheatle.
13 Mental Cripples. G. H. Savage.
14 *Tuberculosis in Limeworkers. E. J. B. Selkirk.

8. **Arteries.**—MacWilliam and Mackie have microscopically examined arteries from a large number of specimens, some obtained from amputated limbs after death by accident, drowning, etc., while the others covered a considerable variety of disease conditions. They give diagrams of numerous sections with descriptive notes, and conclude that when death occurs by a relatively gradual exhaustive process the state of the arterial muscle at the time of death may be such that its contractility soon disappears, instead of being capable of persisting for considerable periods, as in many cases of more sudden death and of amputation; though even in the latter cases there are wide variations as regards the behavior of the vessels after death, no doubt depending on varying conditions of arterial muscle at the time. They have not seen decided contractility in the human adult so late as two days after death. In children contractility may persist longer than in adults.

10. **Stokes-Adams Syndrome.**—Turrell and Gibson relate the details of a case under observation for more than eight years, in which, at autopsy, no gross change was present in regions occupied by the bundle of His or its branches. Microscopically, there was a tendency to fibrosis in the region of the central fibrous body of the heart, extending downward and encroaching on the bundle. The bundle in the fibrous body itself was represented only by a few isolated strands of muscular tissue.

12. **Infective Processes.**—Cheatle considers the relationship between the nervous system and infective processes under two distinct heads, neurovascular and neurotrophic. He asserts that vasodilatation is not a marked feature of those infective diseases in which limitation to nerve area is most obvious, and that there is some factor of limitation other than pure vasodilatation to be considered in these cases. A neurotrophic factor must be taken into consideration in the process of immunity.

14. **Tuberculosis in Lime Workers.**—Selkirk has investigated a general opinion among lime workers that they are exceptionally free from bronchitis and pulmonary tuberculosis. He was unable to find an instance of phthisis among them, nor could he learn on inquiry of any worker in lime kilns having died from tuberculosis. He asks whether those who inhale and swallow much lime are abnormally free from tuberculosis of the lungs. He discusses what is known of the therapeutics of calcium salts, and says it appears that the continued absorption of calcium from the lungs and intestines might maintain an abnormally high percentage of it in the blood. He suggests that the workingman predisposed to tuberculosis might turn his attention to lime and cement working as an occupation, and even hints at the organization of lime works as a curative tuberculosis colony. A rapid increase of weight is commonly observed in new workers at the Warren Cement Works at Hartleypool.

Medical Press and Circular, London.

November 11.

15 Treatment of Surgical Tuberculosis by Iodoform Glycerin and Bier's Congestion Method. P. Daniel.
16 Salicylates in Diagnosis and Treatment. A. Haig.
17 Diagnosis and Treatment of Pancreatic Disease. D. C. Watson.

Clinical Journal, London.

November 11.

18 Prognosis in Tuberculous Affections of the Urinary Tract. W. B. Clarke.
19 *Colostomy by a New Method, with Attempt at Sphincteric Control. C. Ryall.

19. **Sphincteric Control in Colostomy.**—Ryall describes a new method of colostomy, in which the fibers of the rectus muscle are split longitudinally, a stout loop of fibers being detached from the posterior part of the muscle on each side of the line of cleavage. Each loop is then drawn over to the opposite side and made to overlap, the two overlapping loops forming a ring of muscle fibers through which the gut is drawn. The fibers above and below the gut are then brought together with sutures. The greatest gentleness is called for. During healing some retraction of the gut takes place, so it is better to err on the safe side and leave a little too much gut protruding; it can be separated later. The author's experience of the control obtained by this method is encouraging, but it remains to be seen whether it will stand the test of time.

Journal of Obstetrics and Gynecology of British Empire, London.

October.

20 Two Cases of Enlarged Wandering Spleen Simulating Pelvic Tumor. J. E. Gemmell.
21 *Operative Treatment of Puerperal Fever. Sir A. Macan.
22 *Problems in the Treatment of Puerperal Septic Diseases. A. K. Gordon.
23 *Case in which Ovariotomy was Performed During Labor. J. B. Hellier.
24 *Two Cases of Abdominal Hysterectomy for Rupture of the Uterus. W. E. Fothergill.

21. **Puerperal Fever.**—Macan considers this subject under the following heads:

I. THE SURGICAL TREATMENT OF LOCALIZED INFLAMMATIONS:
   1. Wounds.
   2. Interior of the uterus.
II. THE EVACUATION OF COLLECTIONS OF PUS:
   1. In perineum and vagina.
   2. In pelvic connective tissue.
   3. In the abdominal cavity and pelvic peritoneum.
III. THE REMOVAL OR LIGATURE OF INFLAMED VEINS FOR PYEMIA.
IV. THE REMOVAL OF THE UTERUS.

The results that have hitherto been obtained by removal of the uterus in cases of bacteriemia occurring in the puerperal state are not encouraging. Three-fourths of the patients who were operated on for retention of portions of the ovum after labor at full term died, and one-half of those who were operated on for the same cause after abortion; while the mortality—when the indication was severe inflammation of the uterus—whether at full term or after abortion, was 76 per cent. As the general mortality of puerperal fever may be put down at from 15 to 20 per cent., and that of the worst cases 50 per cent., the removal of the uterus, even if confined to the worst cases, which is far from being the case up to the present, increases this mortality instead of diminishing it. The cause of death after the operation is most commonly general peritonitis, which, if not present before the operation,

is due to an infection of the peritoneum by the lochia, or an extension of inflamation from the stumps, or bacteriemia from these as a center. These dangers can certainly be lessened, and probably be entirely prevented, if proper precautions are taken, and if cases are excluded in which infective emboli are already present in the lungs, liver, spleen, or kidneys, even though the patient's general condition is not desperate. The danger of removal is also lessened by performing Porro's operation with thorough cauterization of the stump.

22. **Puerperal Septic Disease.**—Gordon reports and discusses cases, and concludes, among other things, that even if suppuration be present in the uterus itself, hysterectomy is not necessarily indicated. In his experience he found sera almost useless, except when the toxemia was intense with but slight evident local lesion. The only harm he ever saw result from their use was an urticarial eruption. For three years, he has been using massive subcutaneous injections of normal saline solution in puerperal infections generally, and in very severe cases, intravenous injections also. For the last year he has added 50 c.c. of polyvalent antistreptococcic serum to the intravenous saline, and has little doubt that it acts better. He explains this by supposing that the serum contains an immune body but no complement, and that the saline injection by producing a leucocytosis supplies the complement desired.

23. **Ovariotomy During Labor.**—Hellier reports a case in which during labor a tense tumor was found occupying the pouch of Douglas and effectively preventing the head from entering the pelvis. Laporotomy was performed and the uterus was drawn forward out of the abdominal cavity. An ovarian cyst the size of a melon was then very easily drawn up out of the pelvis and through the wound. There were no adhesions. It was attached to the left side of the uterus by a well-defined pedicle, in which the venous sinuses were extremely large. The pedicle was tied in small sections with cat-gut, closing the peritoneum over the stump. The uterus was next replaced, the head being guided and pressed down into the pelvis. The abdominal wound was closed with two series of continuous catgut sutures passed through the deeper layers and twenty interrupted silkworm-gut sutures through the skin and superficial tissues. The abdominal wall was then firmly strapped and bandaged. Labor proceeded naturally without complications.

24. **Rupture of the Uterus.**—Fothergill reports two cases in which abdominal hysterectomy was performed after completion of labor in which the uterus was ruptured, and comments thereon as follows: The fact that the two patients recovered favors the opinion that when a rupture of the uterus is sufficiently serious to demand the opening of the abdomen, it is safer to remove the organ than to attempt to save it. This view is, or was until recently, unorthodox; but if operators were to publish the results of their recent cases it would probably be proved to be correct. It is indeed reasonable to suppose that the presence of a badly injured puerperal uterus with its impaired blood supply may be a serious menace to the life of a patient already suffering from hemorrhage and shock.

Dublin Journal of Medical Science.

November.

25 *Operative Treatment of Puerperal Fever. Sir A. Macan.
26 Pathologic Report of the Rotunda Hospital for the Year Ending Oct. 31, 1907. R. J. Rowlette.

25. See Abstract No. 21.

Annales de Dermatologie et de Syphiligraphie, Paris.

October, IX, No. 10, pp. 545-608.

27 Idiopathic Atrophy of the Skin. (Atrophie idiopathique de la peau.) F. Malinowski.
28 Sporotrichosis. (Sporotrichose syphyloide gommeuse et sporotrichose tuberculoide de type nodulaire.) L. Spillmann and Gruyer.

Annales de l'Institut Pasteur, Paris.

October, XXII, No. 10, pp. 753-831.

29 Acetic Aldehyd in Wine. M. A. Trillat.
30 *Incubation in Syphilis. C. Levaditi and T. Yamanouchi.
31 Glycolysis, Hyperglycemia, Glycosuria and Diabetes. J. de Meyer.
32 Plague Prophylaxis at Rio de Janeiro. F. de Vasconcellos.

30. **Duration of Incubation in Syphilis.**—The research on monkeys and rabbits reported shows that the length of the period of incubation is not determined by any cycle of evolution of the *Treponema pallidum* but is due to the slow, progressive development of the histologic changes induced by the proliferation of the microbe. The change of environment at first checks the growth of the microbes, but as soon as they have adapted themselves to the changed conditions and the histologic lesions induced supply them with their necessary nourishment, then the parasites begin to multiply actively and the phase of incubation terminates. The article is accompanied by four colored plates.

Archives des Maladies du Cœur, Paris.

October, I, No. 10, pp. 553-608.

33 *Three Cases of Recurring Pernicious Anemia. (Anémie pernicieuse à rechutes.) A. Gilbert and P. E. Weil.
34 *Angina Pectoris. (Angine de poitrine.) O. Josué.

33. **Recurring Pernicious Anemia.**—In the first of the three cases described the anemia developed in the course of chronic dyspeptic disturbances. The blood pressure improved with the digestion and became worse as the dyspeptic disturbances increased. In the second case jaundice ten years before was the only pathologic incident in the history. A tendency to jaundice was observed with the anemia, which possibly may be regarded as the result of a hemolytic icterus. The patient succumbed without any benefit from therapeutic measures, the anemia recurring in waves, yielding at first to arsenic. The last fatal exacerbation occurred after a period of great worry and overwork. In the third case, intense anemia was observed in a young bride after a fatiguing six months of travel.

Multiple recurring hemorrhages kept up the anemia, but improvement followed an injection of 15 c.c. of diphtheria antitoxin. This seemed to control the hemorrhages, but the anemia continued a progressive course, being fatal in a few months. Such extensive hemorrhages as were observed in this case are very rare in pernicious anemia, and the remarkable way in which they were arrested by the antitoxin and later by an injection of simple defibrinated human blood is not the least interesting feature of this case. This serum treatment also gave temporary relief in the first case, an injection of 40 c.c. of rabbit serum. This serum treatment seems to be merely a symptomatic measure, but it has a promising palliative action and allows time to be gained.

34. **Angina Pectoris.**—Josué regards angina pectoris as exclusively a pain in the diseased aorta, and this aortic pain is always accompanied by a peculiar anguish. The lesions causing the pain are in the first part of the ascending aorta. The attack of pain is brought on by an emotion or an effort, and these causes are precisely those which increase the blood pressure. The diseased aorta is not painful under ordinary conditions, but the pain develops as the blood pressure rises, and it is favorably influenced by any measure that reduces arterial tension.

Presse Médicale, Paris.

November 7, XVI, No. 90, pp. 713-720.

35 Bacillary Infantile Endocarditis. (Endocardites secondaires. Endocardites primitives septicémiques non folliculaires.) L. Landouzy and H. Gougerot.

November 11, No. 91, pp. 721-728.

36 Case of Syphilitic Polioencephalitis. (Polioencéphalite syphilitique. Ophthalmoplégie totale et bilaterale, accompagnée de symptomes bulbaires.) Dieulafoy.

Semaine Médicale, Paris.

November 11, XXVIII, No. 46, pp. 541-552.

37 Chalazion. (Le chalazion, acné des glandes de Meibomius: histologie et pathogénie.) J. Sabrazès and C. Lafon.

Archiv für klinische Chirurgie, Berlin.

LXXXVII, No. 4, pp. 801-1091. Last indexed Nov. 28, p. 1909.

38 *Drainage of Ventricles of Brain by Transplanted Blood Vessels. (Drainage der Hirnventrikel mittelst frei transplantirter Blutgefässe; Bemerkungen über Hydrocephalus.) E. Payr.
39 *Aseptic Operations on Intestines. (Aseptische Darmoperationen.) L. Wullstein.
40 *Anatomic Behavior of Suprarenal Tissue Implanted in the Kidney. (Anatomische Verhalten intrarenal eingepflanzten Nebennierengewebes.) O. Stoerk and H. v. Haberer.
41 *"Wound Scarlet Fever." (Wundscharlach.) L. Kredel.

42 Indications and Therapeutic Results of Artificially Induced Pneumothorax. (Indicationen und therapeutische Erfolge des künstlichen Pneumothorax.) L. Brauer.
43 Pathology of Intestinal Diverticula. E. Neupert.
44 *Progressive Necrosis of the Costal Cartilages. (Progressive Rippenknorpelnekrose.) W. Röpke.
45 *Pathology and Therapy of Ileocecal Tuberculosis Causing a Tumor and Stenosis. Shiota.
46 Typical Fracture of Epicondyle of the Femur. K. Vogel.

38. **Drainage of Ventricle of Brain by Transplanted Blood Vessel.**—Payr's long article reviews the anatomy and physiology of the lymph circulation in the brain, study of which has convinced him of the feasibility of treating hydrocephalus by draining the lateral ventricle, possibly into the longitudinal sinus, using some blood vessel to divert the fluid into the venous circulation or lymph spaces. He gives an illustrated description of the instruments he has devised for the purpose, and relates the history of three cases in which he has applied this technic as a last resort. Drainage of the ventricle was thus done five times on three individuals, but permanent benefit was not obtained in any case. The autopsy findings and the course of the cases confirm the practicability of the intervention and the mistakes to be avoided in future. The vision in one case had improved so much that hopes were entertained of permanent improvement, but the child succumbed to secondary infection of the ventricle. The operations were performed without mishap. A piece of the right saphenous vein, about 8 cm. long, was resected and implanted in the ventricle in one case, the patient being a girl of 9. In the second case a segment of the saphenous vein, resected on account of varices from a man of 52, was used for the ventricle drain in a child of 14 months. In the third case the temporal vein was cut and twisted around and the distal stump implanted in the ventricle. In conclusion Payr presents arguments to justify intervention along these lines, but warns that it is applicable only when the cerebrospinal fluid is limpid and sterile. The drain must be arranged with a valve action to prevent return of the fluid into the ventricle.

39. **To Insure Asepsis in Operations on Intestines.**—Wullstein ties a stout silk thread around the end of the bowel, in the groove made by the splanchnotribe on each side of the stretch to be resected. In tying the knot he slips over the silk thread three finer silk threads with which he is able to untie the knots and finally pull out the stout thread altogether. The fine threads can not be knotted, so he has each woven to form a loop, both ends woven together. The first loop is slipped on the middle of the stout thread and the second near it. The thread is then knotted and the third loop is slipped on one end before the final knot is tied. In order to distinguish the three loops he uses different colors, red, blue and yellow. After the abdominal wall is sutured in tiers he pulls on the red loop string. This unties the outer knot of the stout thread; pulling then on the blue loop unties the inner knot and the thread can then be drawn out completely by the yellow loop at its center. By this means the stout thread can be pulled out after the operation is entirely completed, as the threads can squeeze through the soft parts as they are drawn up from the depths. The presence of the loop threads does not interfere with the suturing, as traction on them does no harm but merely pulls the knots tighter, with the exception of the red loop in the outer knot; this must not be pulled on until ready to untie the knots. He has applied this same principle for removal of buried sutures. His article is illustrated.

40. **Anatomic Behavior of Suprarenal Tissue.**—By leaving a nourishing pedicle, it has been found possible to transplant a piece of suprarenal tissue in the kidney with apparent retention of function.

41. **"Wound Scarlet Fever."**—Kredel states that in the Hannover Hospital 28 cases of scarlet fever developed among the patients. In 12 the infection followed an extensive operation and in one a severe burn. The incubation was only three days in ten and from five to eight days in the others. He is convinced that the infection occurred in the operating room, and believes that antiseptic rather than aseptic measures might be preferable during prevalence of scarlet fever.

44. **Progressive Necrosis of the Costal Cartilages.**—Röpke reports four cases in which a localized abscess in a costal cartilage led to necrosis. The persistence of suppuration even after thorough evacuation of the focus in these cases confirms the necessity for extensive and early intervention to save the patients from many months of illness. The affection in his cases was secondary to typhoid, influenza with an abscess in the neck, fracture of the ribs or a suppurating wound in the vicinity. This property of the costal cartilage to take an active part in keeping up the suppurative process is due to the anatomic conditions and its peculiar mode of nourishment.

45. **Ileocecal Tuberculosis.**—Shiota summarizes the details of twenty-six typical cases in which the tuberculous process caused a tumor and stenosis. Treatment can be only surgical by resection. The results were good in a number of cases in which partial exclusion of the bowel was done. He compares the experiences of different clinics with ileocecal tuberculosis, the reports from nine showing an immediate mortality of 23.8 per cent. in 84 cases, but this mortality has dropped to 14 per cent. during recent years. In his own 11 cases of resection there was no immediate mortality nor persisting fistula, and all the patients are in good health from one to nearly five years since the operation, with the exception of one patient who succumbed in six months to debility.

Beiträge zur Klinik der Tuberkulose, Würzburg.

XI, No. 1, pp. 1-78. Last indexed Nov. 28, p. 1910.

47 *Physiology of Artificially Induced Pneumothorax and Its Action on Pulmonary Tuberculosis. (Zur Physiologie des künstlichen Pneumothorax und seiner Wirkung auf die Lungentuberkulose.) S. Shingu.
48 Experimental Transmission of Tuberculosis from Man to Cattle. (Experimentelle Uebertragung der Tuberkulose vom Menschen auf das Rind.) A. Eber.
49 "Granula" and "Splinters." (Granula und die Carl Spenglerschen "Splitter.") H. Much. Id. M. Wirths.

47. **Physiology of Artificially Induced Pneumothorax.**—Shingu describes the experiences with artificially induced pneumothorax in 60 patients in the course of three years, and with numbers of animals, the communication issuing from Brauer's clinic at Marburg. The experimental research was undertaken principally to study the circulation of lymph in the normal and in the compressed lung, especially the circulation of inhaled particles of soot in the lymph. The lung was compressed by a pneumothorax or hydrothorax. The findings in nineteen rabbits are reported in detail, with colored plates in some instances. The most interesting finding in the experiments was, perhaps, the way in which the collapsed lung retained the soot particles, while the still normally functioning lung gradually cleared itself of the soot by way of the bronchi. This self-cleansing of the lung by the respiration is probably aided by the whirlpool movement of the inspired air and by the action of the ciliated epithelium moving the particles along toward the outlet. This self-cleansing function is probably an important means of getting rid of bacilli in the lungs. The collapse of the lung under the influence of a pneumothorax of course arrests this self-cleansing process, so far as it depends on the respiration. The experiences related confirm the old assumption that the tuberculous process develops more slowly the less active the lymph circulation in the part. It is still a question whether this is due to attenuation of the virulence of the bacilli under these circumstances or to an increase in the defensive properties. In some respects the conditions with an artificially induced pneumothorax are similar to those with Bier's hyperemic treatment, at least in so far as the lymph circulation is concerned. One advantage of the compression of the lung is that new relays of bacilli and dust particles can no longer be brought into the compressed lung, which thus escapes these deleterious influences. The lung is able to take care of the bacilli already in it by the self-cleansing functioning of the ciliated epithelium of the bronchi. This must have a favorable influence on the bronchitic process with its consequences, the cough, fever from proliferation of the bacilli, pains, etc. On the other hand, there is also a possibility that in existing bronchial catarrh, with especially tenacious secretion, the secretion may be retained and entail cheesy degeneration of the peripheral segments. The main factor in the cure of a tuberculous process by a pneumothorax is the checking

of the proliferation of the tubercle bacilli from the compression—the lung tissue becomes more compact and the bacilli are unable to proliferate. The benefit from the pneumothorax in the clinic has been marked in many cases, and the pathologic findings in the three cases that came to autopsy showed unmistakable healing. The breathing lung works harder than usual, and there is danger that this excessive respiration may aspirate tubercle bacilli and other germs from the compressed lung into the breathing lung or from the air. It is therefore important that this lung doing extra work should have air as pure as possible to breathe. This pneumothorax treatment should not be attempted unless the lung that is to do the extra work is practically free from tuberculosis. The patient should keep as quiet as possible to keep the circulation of lymph at its lowest point and restrict aspiration of foreign bodies, dead or living, liable to induce inflammation. These conditions evidently cooperate in the benefit of the outdoor rest cure.

Berliner klinische Wochenschrift.

November 2, XLV, No. 44, pp. 1961-2006.

50 *When and How to Treat Retrodisplacements of Uterus. (Wann und auf welche Weise ist die Rückwärtslagerung der Gebärmutter zu behandeln?) P. Strassmann.
51 Physiologic Importance of the Prostate. C. Posner.
52 *The Complement-Binding Test for Syphilis. (Beiträge zur Theorie und Praxis der Wassermann'schen Syphilisreaktion.) H. Sachs and P. Rondoni.
53* Turgosphygmography and Finger Plethysmography. F. Fleischer.
54 *Phototherapy of Lupus. M. Piorkowski.
55 Treatment of Pulmonary Tuberculosis Along the North Sea. (Behandlung der Lungentuberkulose an der Nordseeküste.) C. M. Mol.
56 *Relations Between Tuberculosis and Tubercle Bacilli in Man and Tuberculosis and Tubercle Bacilli in Cattle. (Untersuchungen über die Beziehungen zwischen der Tuberkulose und den Tuberkelbacillen des Menschen und der Tuberkulose und den Tuberkelbacillen des Rindes.) J. Fibiger and C. O. Jensen.

50. **Treatment of Retrodisplacement of the Uterus.**—Strassmann believes that this condition is more frequent than generally believed, and that it is favored by overfilling of the bladder, which pushes the fundus backward, and by overfilling of the rectum, which pushes the cervix forward and thus pivots the fundus backward. Another factor in backward displacement is any laceration of the cervix annulling its action as a solid tube. He urges the importance of examination four or five weeks after childbirth to detect and remedy incipient retroversion. He uses a ring pessary in certain cases, and thinks that about one-fifth can thus be cured or at least relieved from all disturbances. He warns that it is not wise to operate for retroversion resulting from inflammatory conditions in the adnexa, during the first year. The causal germs die off in the course of nine months, poisoned by their own waste products in the closed tubes. During the interim, conservative measures, local application of heat and hydrotherapy, may be applied. He does not approve of operating for retroflexion unless compelled by symptoms, but adds that a spontaneous abortion should always suggest the possibility of displacement of the uterus. If a retroflexed uterus has become corrected during a pregnancy, the wearing of a ring pessary may prevent recurrence. He warns in conclusion that the earlier a woman gets up after childbirth, the more puerperal are the genitalia, the wider the vagina, the less healed are the small lacerations which every parturient has, the larger is the uterus and the greater the burden on the floor of the pelvis. If the woman gets up early after delivery at home, she is sure to begin to work. For these and other reasons, he does not approve of allowing the parturient to get up early.

52. **The Serum Test for Syphilis.**—Sachs and Rondoni state that the conditions in regard to the dilution of the extract used for the test have a great influence on the findings. It seems probable that the complement-binding action is dependent on the size of the colloidal dissolved particles in the extract and not merely on its chemical properties alone.

53. **Finger Plethysmograph.**—Fleischer describes the experiences at Strauss' polyclinic at Berlin with the turgosphygmograph and with a new and simple apparatus he has devised to study the behavior of the pulse in the vessels in the finger. He gives an illustrated description of this "finger plethysmograph," with a number of tracings of the finger pulse in health and disease.

54. **Phototherapy of Lupus.**—Piorkowski relates a number of examples from his large experience to show the fine results that can be obtained in lupus from the use of various forms of light, selecting the special technic adapted for each individual case. The quartz lamp is found most effectual for small, solitary, superficial foci. It has such a powerful irritating action on the skin that the dosage must be applied cautiously. Roentgen therapy is best adapted for the preliminary treatment of suppurating surfaces. The results, both from the cosmetic and the functional point of view are not entirely satisfactory. Finsen treatment gives the most nearly perfect results, especially in the severer cases, and it is free from danger, he says, unless it is contraindicated by some organic affection.

56. **Relations Between Human and Bovine Tuberculosis.**—Fibiger is professor of pathologic anatomy at the University of Copenhagen, and Jensen is professor of general pathology at the veterinary and agricultural college and in this long monograph they give a detailed account of their experiences with transmission of tuberculosis to cattle from clinical cases. The cases are numbered as a continuation of their previous reports on the subject, and the material is tabulated for better oversight. In the 27 cases, tubercle bacilli virulent for cattle were found only in such cases as the localization of the affection and the history of the case rendered it probable that the tuberculosis in these patients had been derived from cattle. When the conditions indicated that the tuberculosis had been derived from a human source, the tubercle bacilli were not especially virulent for cattle. They do not accept the reverse conclusion, namely, that cases of human tuberculosis in which the bacilli are only slightly virulent for cattle are necessarily of human origin. Such an assumption is disproved by the cases in which the bovine type of bacilli could be derived from external lesions, while bacilli from the lungs and urinary passages were of the human type, as in a typical case reported in which the primary tuberculosis was a chronic verrucous affection of the skin in a man employed in slaughtering and dressing diseased cattle. Their experiences lead them to oppose any attempt to classify the types of tubercle bacilli according to their virulence for rabbits. Future research, they say, must be devoted to the study of the question whether tubercle bacilli in human and bovine tissues may not become transformed from one into a different type or types. This question is important from several standpoints, and is the key to the mutual relations between tuberculosis in man and in cattle. The monograph is continued through Nos. 42 to 45.

Deutsches Archiv für klinische Medizin, Leipsic.

XCIV, Nos. 3-4, pp. 239-440. Last indexed Oct 31, p. 1558.

57 *Hemolytic Substances in Stomach Content and Their Importance in Diagnosis of Gastric Carcinoma. (Vorkommen hämolytisch wirkender Substanzen im Mageninhalt.) E. Grafe and W. Röhmer.
58 Toxic and Immunizing Action of Pepsin-Digested Typhoid Bacilli. (Giftige und immunisierende Wirkung pepsinverdauter Typhusbazillen.) E. Gottstein.
59 *Clinical Study of Disturbances in Conduction of Impulse to Auricle. (Zur Kenntnis der Ueberleitungsstörungen von der Bildungsstätte der Ursprungsreize zum Vorhof.) J. Ribl.
60 New Evidence as to Vascular Origin of Pulmonary Tuberculosis. (Neue Beweise für die vaskuläre Entstehung der Lungenschwindsucht.) T. Aufrecht.
61 *Experimental Research on Significance of Hyperthermia. (Bedeutung der Hyperthermia.) F. Rolly and Meltzer.
62 Physiology and Pathology of Ciliated Epithelium of Respiratory Organs. (Flimmerepithel der Atmungsorgane.) F. Lommel.
63 Leukanemia. (Zur Leukanämiefrage.) E. Masing.
64 Determination of Blood Content and Behavior of Blood when Water is Supplied by Digestive Tract. (Experimentelle Untersuchungen über die Bestimmung der Trockenrückstande des Blutes und das Verhalten des Blutes bei Wasserzufuhr durch den Verdauungskanal.) R. Chiarolanza.
65 Viscosity of Blood in Health. (Viskosität des Blutes bei Gesunden.) W. Hess.
66 *Clinical Importance of Determination of Viscosity. (Die klinische Verwertung der Viskositätsbestimmung an Hand von vierhundert Bestimmungen.) E. Bachmann.
67 Proportions of Hematin and Iron in the Blood. (Farbstoff- und Eisengehalt des Blutes.) O. David.

57. **Differential Importance of Hemolytic Substances in Stomach Content.**—Continuing their previous research, Grafe and Röhmer have now a record of 230 persons, with and without stomach affections, whose stomach content has been repeatedly tested for hemolytic properties. In 57 cases of certain cancer of the stomach the hemolysis was always pronounced, while it never was detected in the healthy content, and never under other conditions except when there was regurgitation of bile and pancreatic juice, which is especially liable to be encountered when there is considerable ptosis. It is necessary, therefore, to determine the presence of trypsin, and if it is found impossible to obtain the stomach content free from trypsin, the hemolytic property has no diagnostic value. The hemolysis is probably the work of some albuminoid substance, and it indicates an ulcerative process in the stomach. It is thus impossible to differentiate by this hemolytic test a large benign ulcerating ulcer from a small incipient cancer, so that negative findings are much more important than positive. Grafe and Röhmer reject the umbilicus as an unreliable basis for computing the amount of ptosis. A line connecting the highest points of the crests of the ilium is more reliable, and they accept as gastroptosis the cases in which the lower limit of the inflated stomach is at least two fingerbreadths below this line.

59. **Disturbances of Conduction of Heart Impulse.**—Rihl has studied a case of irregular heart action which he describes in detail and compares with others. Simultaneous registration of the arterial and venous pulse showed occasional dropped systoles of the ventricle with and without dropped auricular systoles. By pressure on the vagus during periods of regular heart action, it was possible to induce the dropping of ventricular systoles and arrest of the contractions of the auricle. During the ventricular pause from the pressure on the vagus, the ventricles contracted independently of the work of the auricles; these contractions were evidently automatic.

61. **Significance of Abnormally High Temperature.**—Rolly and Meltzer report extensive experimental researches which demonstrate, they think, that a febrile temperature is liable to have a favorable action in bacterial infections, and that phagocytosis is promoted, as also the production of antibodies. The rising temperature with infectious processes may thus be regarded as a means of defense, arousing the cells to increased activity, so that the specific antibodies are produced earlier and in increased amounts. There did not seem to be any permanent injury to the animals from the prolonged febrile temperature, but there were certain transient disturbances such as loss of weight and lower hemoglobin percentage.

66. **Determination of the Viscosity of the Blood.**—Bachmann advises determining the viscosity of the blood in connection with hemoglobin, the experiences showing that the hemoglobin divided by the viscosity gives a quotient which is nearly constant in health, but which varies widely in different diseases. In pneumonia the viscosity is increased; in typhoid it is reduced, as also in chronic interstitial nephritis. In thrombosis the viscosity may range from average to maximal figures. The higher the viscosity the graver the prognosis. In epidemic meningitis the viscosity is always pronounced.

Deutsche Zeitschrift für Chirurgie, Leipsic.

October, XCIV, Nos. 5-6, pp. 407-629.

68 Three Cases of Rare Malformations. (Einige seltene Missbildungen.) Emin.
69 Roentgen Diagnosis of Tuberculosis of the Pulmonary Glands in Children with Spondylitis. (Zur Röntgendiagnostik der kindlichen Lungendrüsentuberkulose bei Malum Pottii.) M. Matsuoka.
70 Production of Stones in Upper Urinary Passages after Injury of the Spine. (Zur Frage der Steinbildung in den oberen Harnwegen nach Verletzung der Wirbelsäule.) G. Seefisch.
71 Treatment of Lupus. P. Wichmann.
72 Circular Resection of Trachea. Method of Suturing. D. v. Navratil.
73 *Hemorrhage in the Adipose Capsule of the Kidney. (Blutung in das Nierenlager.) H. Joseph.
74 Surgery of Gastric Cancer. (Zur Chirurgie des Magencarcinoms.) O. Creite.
75 *Hernia of the Bladder. (Harnblasenbrüche.) H. Eggenberger.
76 *Experimental Research on Clamping the Large Vessels near the Heart with Special Reference to Operative Treatment of Pulmonary Embolism according to Trendelenburg. (Die chirurgisch wichtige Abklemmungen der grossen Gefässe in der Nähe des Herzens unter besonderer Berücksichtigung der Verhältnisse bei der Lungenembolie-Operation nach Trendelenburg.) A. Läwen and R. Sievers.
77 Multiple Cysts in Esophagus. F. Landois.
78 Two Cases of Dislocation of the Pelvis. (Beckenluxation.) Grimbach.
79 Cancer Removed from Sphenoidal Sinus. Two Cases. (Maligne Tumoren der Keilbeinhöhle.) Vorschütz.
80 Shovel Retractor for Operations on Biliary Passages. (Schaufelhaken.) P. Sick.

73. **Hemorrhage in the Adipose Capsule of the Kidney.**—A man of 50 with a tendency to gout suddenly developed intense pain in the right kidney region with collapse, transient anuria and paresis of the intestines. The temperature rose, there was hemorrhagic suffusion of the skin in the region, a resistance could be palpated, and the patient grew constantly weaker, but with no signs of anemia and with no abnormal urine findings. Operation revealed hemorrhage in the adipose capsule and around the kidney. The blood-soaked tissue was removed, but the apparently intact kidney was not disturbed. A complicating pneumonia and the persistence of symptoms soon compelled nephrectomy which the patient did not survive. Autopsy revealed further a septic tumor in the spleen. Joseph remarks in conclusion that the circumstances in this and the two similar cases on record indicate that the patients might have been saved by earlier removal of the focus in these cases of "apoplexy of the bed of the kidney."

75. **Hernia of the Bladder.**—Eggenberger adds 110 cases to the previous statistics of 182 collected by Brunner in 1896. The list includes 5 from his own experience. He summarizes this later series, classifying the cases and discussing the treatment. In operating on a manifest cystocele the bladder is never injured and the disturbances subside after its reduction. The outlook is not so good with the latent bladder hernia discovered as a complication at a herniotomy, as the bladder is liable to injury in this case. The conditions are still worse when the participation of the bladder in the hernia is not discovered at the time of the operation. The mortality in this case still amounts to 30 or 40 per cent., and tedious fistulas are frequently left.

76. **Clamping of Large Vessels Near Heart.**—Research on this subject was undertaken at Trendelenburg's clinic to throw light on the conditions in pulmonary embolism and the best means of operative intervention. After simultaneous constriction of the pulmonary artery and the aorta in rabbits, the heart and brain seem to suffer most, but the former is more resistant and adapts itself better to the changed conditions. It finally yields to their injurious influence, the overfilling of the organ and the impossibility of emptying it, the lack of fresh nourishing blood in its arteries and the central irritation of the vagus center, all combining to arrest the heart action in time. The heart can stand this for six minutes, however, and the animals apparently tolerated without injury simultaneous constriction of the aorta and pulmonary artery for the space of one minute. This gives ample time in operating on man to take the thrombi out of the branches of the pulmonary artery, or, if not, the constriction could be removed and the wound in the artery closed with a special clamp. Then, after the circulation has been proceeding normally for a few minutes, the constriction could be applied anew. It is unnecessary, theoretically, to apply artificial respiration while the pulmonary artery is occluded, as no blood can then pass through it to be oxidated in the lungs. It is all the more necessary, however, after the constriction has been removed and the circulation through the lungs starts up once more. Experiments in which the two arteries were constricted separately produced the same results as when the two were constricted at the same time. One rabbit survived after the circulation in the pulmonary artery had been shut off for one minute, while an operation as for pulmonary embolism was being done. The animal was lively at once as soon as it recovered from the ether. Other experiments with occlusion of the large veins showed that the coronary and pulmonary circulation was maintained at least for a time. Puncture of the left ventricle during this experiment showed pronounced arterial blood and in the right ventricle dark venous blood. The heart tolerates constriction of the large veins better than of the large arteries. The heart resumed its functioning when the vena cava had been constricted for nine minutes, but irreparable disturbances had occurred in the brain.

the corneal reflex being permanently abolished. The rabbits were able to tolerate without apparent injury constriction of the large veins for 3¾ minutes. If the venæ cavæ are tied off to arrest hemorrhage in the clinic, brain complications can be avoided by releasing the pressure from time to time to allow the blood to circulate freely once more through the brain, even at the loss of a little more blood in hemorrhage. Rabbits were used for all the tests reported and the arteries were constricted with yarn dipped in oil. The artery is readily lifted by the piece of yarn passed underneath, and crossing the ends of the yarn constricts the lumen completely. The veins were occluded with small Dieffenbach clamps with the sharp edges filed off.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin.

November, XXVIII, No. 5, pp. 509-638.

81 Chemical Composition of Myoma and Uterine Musculature. (Chemische Zusammensetzung der Myome und der Uterusmuskulatur.) R. Birnbaum and G. Thalheim.
82 Structure and Function of the Epithelium of the Fallopian Tubes in Man and Animals. (Bau und Funktion des Eileiterepithels.) J. Schaffer.

Therapie der Gegenwart, Berlin.

November, XLIX, No. 11, pp. 481-528.

83 *Symptomatic Treatment of Pulmonary Tuberculosis. H. Senator.
84 Dangers of Reinjection of Curative Serum. R. Otto.
85 *Artificially Induced Pneumothorax in Treatment of Pulmonary Tuberculosis. (Indikationen und Technik des Künstlichen Pneumothorax bei Lungenschwindsucht.) C. Forlanini.
86 Hydrotherapy of Arteriosclerosis. J. Sadger.
87 *Rare Ulcerative and Necrotic Processes in the Mouth. (Seltenere ulzeröse und nekrotisierende Prozesse im Munde.) P. Ritter.

83. **Symptomatic Treatment of Tuberculosis.**—Senator remarks that symptomatic treatment of all affections is too much neglected. Besides the causal and the specific measures, the symptomatic should be used more systematically than is frequently the case, especially in tuberculosis. He takes up the various symptoms in turn and discusses the best measures for their relief. In hemoptysis the most complete repose is imperative—avoidance of physical and mental exertion of any kind. Severe coughing is injurious and should be prevented as it never expels all the blood, while pure blood in the air passages is readily absorbed without harm. Sedatives should therefore be given to control the cough; even morphin may be useful. It has the further advantage that it tranquilizes the patient, who is usually frightened and excited by the hemoptysis. Digitalis may also prove useful in case the heart is acting too stormily. Application of cold to the chest may aid by reflex action in inducing contraction of the blood vessels, but if it causes the patient to feel chilly it is best to discontinue it. He has never witnessed much benefit from astringents, except possibly lead acetate, which seems to increase the coagulability or viscosity of the blood. Inhalation of astringents, to do any good, would have to be so powerful that it would keep the parts from the needed repose. Ergot, hydrastis and similar drugs, useful to stimulate the sound uterine muscle to contract, are liable to do harm here as the bleeding vessel is diseased and thus not able to respond to the stimulus. If the sound parts around contract, the hemorrhage may be increased. Gelatin is liable to do good service. Although it is more effectual subcutaneously injected, he gives it also by the mouth and in enemas, regarding it as a valuable means of supplying nourishment, in addition to its hemostatic action. If the hemorrhage remains profuse, he supplements these measures by applying a tourniquet to the arms and legs to shut off the circulation in these parts. This must be done cautiously, not allowing too much congestion in the limbs, and with care to release the dammed circulation from only one limb at a time, to avoid too much flooding of the lungs when the general circulation is restored. If further measures are needed, the suprarenal preparations might be tried, although their action in contracting the blood vessels is of little use—they seem, however, to have some further influence on the blood itself. Lead acetate might be alternated with them. Slight fever may be controlled by repose and frequent, easily digested meals. If the fever keeps high, he paints the skin with 1 or 2 gm. (15 or 30 grains) of guaiacol, covering the region afterward with rubber tissue—the temperature generally drops in less than an hour afterward. This is such a powerful measure that he warns not to use more than 0.5 or 0.75 gm. (7½ or 10 grains) for very sensitive patients. The salicylates are liable to injure the stomach and increase sweating. To prevent night sweats no warm food or drink should be taken in the evening, and the trunk should be gently rubbed with cool vinegar water or fluid formalin soap. Atropin stands at the head of internal remedies, if such are indispensable, but it should be given with great caution. Dietetic treatment of the diarrhea with warm packs of the trunk and, possibly, warm Ems Kesselbrunnen water, mornings, fasting, and again several hours after dinner, generally keep the diarrhea under control unless the intestinal lesions are very extensive. If drugs are needed, he prefers an infusion of a mild vegetable drug.

85. **Artificially Induced Pneumothorax in Tuberculosis of the Lung.**—Forlanini advanced the theory of this procedure in 1882 and in 1894 published clinical experiences with it. He here reviews the whole subject and its history to date, with thirteen illustrations of the technic which he has found most effectual, apparatus, etc. The method is indicated, he says, for the uncomplicated cases of unilateral pulmonary tuberculosis with a slow or subacute course and with free pleura, without regard to the extent or degree of the lesion. In such cases the pneumothorax treatment is simple, comparatively short, and leads to an effectual cure. He adds that it may be indicated in the acute unilateral cases when other measures fail or are impracticable for any reason. The treatment is also indicated as above even in the presence of pleural adhesions if they can be broken up with the pneumothorax, but in such cases the method is harder to apply and the course of treatment much longer. He admits, further, that the pneumothorax treatment is applicable to cases of bilateral but not acute phthisis. The article is to be continued.

87. **Ulcerative Processes in the Mouth.**—Ritter relates a number of instances of severe ulcerative processes with necrosis in the mouth. Those originating in irritation from a tooth or other accidental cause can generally be arrested by energetic measures, but the prognosis is more serious of those on a basis of tuberculosis, leukemia or other constitutional taint. One of his patients was a woman of 35, who developed ankylosis of the jaws three weeks after extraction of a wisdom tooth. An ulcerative process followed, rebellious to antisyphilitic and other treatment, and which soon assumed fatal malignant features. In another case a small boy developed an ulcerative stomatitis in consequence of prolonged treatment with phosphorus on account of rachitis and debility. The necrosis was so pronounced that there was no resource except curetting without regard to preservation of the dental germs for the permanent teeth. Ritter refers in conclusion to the ulcerative processes liable to follow injection of cocain, warning that prolonged anemia of any part is liable to be followed by the death of the part and necrosis, consequently the dose of cocain should be small, and the parts not allowed to be unduly distended. The action on the heart must also be cautiously watched. Palpitation and a tendency to syncope are liable to be observed in anemic individuals. In one case edema of the sublingual glands was observed after removal of an incisor under cocain-adrenalin. The glands suppurated and opened outward.

Virchows Archiv, Berlin.

November, CXCIV, No. 2, pp. 177-368.

88 Scorbutus. T. Sato and K. Nambu.
89 Gonorrheal Coxitis and Its Relation to Protrusion of Floor of Acetabulum. F. Schlagenhaufer.
90 Pathologic Anatomy of the Liver. F. G. A. Meyer.
91 Duerck's Fibers in the Penis. (Vorkommen der Duerckschen Fasern im Bereich des Penis und deren Beziehungen zu den elastischen Elementen.) C. Bruegel.
92 Morphology of Cartilage Glycogen and Structure of Cartilage Cells. J. Arnold.
93 Phenomena of Degeneration and Healing in Amyloid Kidney. (Ueber Entartungs- und Heilungserscheinungen in der Amyloidniere.) R. Sarrazin.
94 Genesis of Multiple Cysts in the Spleen. (Zur Genese der multiplen Milzzysten.) F. Wohlwill.
95 Proliferation of New Diseased Lymph Glands. (Vermehrung erkrankter Lymphdrüsen.) R. Hammerschlag.
96 *Importance of Proteolytic Leucocyte Ferment in Pathologic Physiology: Absorption, Autolysis, Fever, and Changes in the Coagulating Property of the Blood. G. Jochmann.

96. **Importance of Proteolytic Leucocyte Ferment for Pathologic Physiology.**—Jochmann has succeeded in isolating the proteolytic ferment of the polynuclear neutrophile leucocytes and has been studying its action in various pathologic conditions. His research indicates that this ferment plays a considerable part in the autolysis of most of the organs and that its power of digesting albumin facilitates the process of absorption, while the liberation of the ferment in large amounts has an undoubted action in raising the temperature, and may be responsible for the aseptic fever observed under various conditions, such as the slight fever after a normal childbirth, the fever in myelogenous leukemia, after Roentgen exposures, and after injection of silver salts. The ferment also seems to reduce the coagulating power of the blood at first, but in large doses it has the opposite effect.

Wiener klinische Wochenschrift.

November 5, XXI, No. 45, pp. 1545-1580.

97 *Advantages of Institutional Care of Childbirth. (Geburtshilfe in Anstalten und ausserhalb derselben.) F. Schauta.
98 Experimental Transmissible Tumors. (Zur Kenntnis der übertragbaren tierischen Tumoren.) K. Landsteiner.
99 *Diarrhea from Gastric Achylia in Children. A. F. Hecht.
100 *Microchemical Test for Mucus in Stools. (Neuer mikrochemischer Schleimnachweis im Stuhl.) Id.
101 Poisoning from Fishberries Used as Abortifacient. (Zur Kasuistik der durch Kockelskörner hervorgerufenen Vergiftungen.) E. Homa.
102 Umbilical Hernias. (Nabelhernien.) A. Fraenkel.

97. **Obstetrics in and outside of Lying-in Hospitals.**—Schauta urges the more general preaching of the gospel that when a woman is facing a childbirth she should avail herself of the superior advantages of institutional care as a matter of course. To the sentimental objection that in this hour of stress she wants to be in the bosom of her family, he replies that any laparotomy is as much an hour of stress as a childbirth, and yet that no one thinks of advising a laparotomy to be done in the home except under extraordinarily favorable conditions. Every obstetrician knows how much more difficult his task is rendered by the environment of the ordinary private house, and how he is frequently unable under the circumstances to do what his reason tells him should be done for the ultimate welfare of mother and child. The family physician or obstetrician should still have charge of the case, as in the home, only he should have all the resources of the modern well-equipped lying-in hospital to back him. He should be able to determine during the last half of gestation whether the delivery is liable to be pathologic or not, and if so, the woman should be advised to go to some institution. Among the arguments he cites to sustain this contention is the fact that in Mecklenburg, 1887-1897, two-thirds of the fatalities from puerperal infection were in women who had required some obstetric operation. Other statistics also teach the same lesson, namely, that the mortality from puerperal infection outside of institutions is still as high, or even higher, than in the preaseptic days, while in the maternities the mortality is less than a thirtieth of what it used to be.

99. **Gastric Achylia in Children.**—Hecht's experience indicates that every chronic diarrhea is suspicious of achylia, and he urges that the gastric secretions should be investigated in every such case. In a recent case of the kind, a girl of 9 had long suffered from chronic diarrhea, and during weeks of observation no hydrochloric acid and no lab ferment, and scarcely any splitting of fat, were discovered in the stomach, while there was very little to show the action of pepsin. There was a suspicion of tuberculosis also, but the case is a typical example of chronic diarrhea resulting from gastric achylia. It is probable, he adds, that such cases will be found to be more numerous than suspected at present, if the gastric secretion is systematically investigated in patients with a chronic tendency to diarrhea.

100. **Microchemical Test for Mucus in Stools.**—Hecht adds to a scrap of stool a drop of a mixture of equal parts of a 2 per cent. solution of brilliant green with a 1 per cent. solution of neutral red, diluted. The mucus stains red, while the rest of the stool is green, except the nuclei and membranes of cells.

Zentralblatt für Chirurgie, Leipsic.

November 7, XXXV, No. 45, pp. 1321-1352.

103 *Osteoplastic Substitution After Resection of Lower Jaw. (Zum osteoplastischen Ersatz nach Unterkieferresektion.) L. R. v. Rydygier.
104 Injury of Hepatic Duct During a Cystectomy. (Verletzung des Ductus hepaticus bei der Cystektomie.) W. Volkmar.
105 Modified Cannula for Transfusion according to Crile. (Eine modifizierte Crile'sche Transfusionskanüle,) L. Buerger.

103. **Osteoplastic Restoration after Resection of Jaw.**—Rydygier gives an illustration of the method of using a strip cut from the front of the clavicle to fill the gap left by resection of the under jaw. The strip of bone is wrapped in a corresponding pedunculated skin flap in which it is allowed to heal before being transplanted. The one case in which he had occasion to apply this technic amply confirmed its practicability and successful results.

Zentralblatt für Gynäkologie, Leipsic.

November 7, XXXII, No. 45, pp. 1465-1496.

106 Polypous Ovarian Cystoma. (Fall von polypösem Eierstockskystom.) A. Grasmueck.
107 *Placental Theory of Etiology of Eclampsia. J. Hofbauer.
108 Attempt to Follow Sellheim's Technic for Extraperitoneal Cesarean Section. (Versuch eines extraperitonealen Kaiserschnittes nach Sellheim.) Uthmöller.
109 Operation by Rehn-Delorme Technic for Prolapse of Rectum. (Operation eines Mastdarmprolapses nach Rehn-Delorme.) Id.

107. **Placental Theory of Eclampsia.**—Hofbauer reviews the arguments for and against the assumption that ferments from the placenta are liable to induce partial intravital autolysis of the liver. The toxins resulting from the autolytic process and also from the defective functioning of the liver are responsible for the development of the eclampsia. The testimony is overwhelmingly in favor of this assumption, he says. It should not be called a theory, he adds, as it is a complex of interdependent facts which have each been demonstrated with the exception of the ferments in the placenta; these as yet are known only by the results of their action.

Gazzetta degli Ospedali e delle Cliniche, Milan.

November 1, XXIX, No. 131, pp. 1405-1420.

110 *Temporary Hemostasis During Removal of Kidney Stones. (Emostasi temporanea nelle nefrolitotomie.) G. Caponetto.
111 *Neutral Potassium Oxalate for Treatment of Phlegmons, Adenitis and White Swelling. (Dell'Ossalato neutro di potassa nella cura del flemmone, della adenite e della flemmasia alba dolens.) G. Cavazzani.
112 Sea Bathing in Treatment of Certain Tuberculous Affections. (Cura di alcuni processi tubercolari merce i bagni marini.) R. Passini.
113 *Suddenly Fatal Electric Accidents. (Morte improvvisa da scarica elettrica.) A. Tonello and L. Confalonieri.
114 *Study of Abdominal Colic. (Sulle coliche addominali con speciale riguardo al dolore epigastrico.) M. Lodi.

110. **Temporary Hemostasis During Operations on the Kidneys.**—Caponetto uses an elastic cord or very fine rubber drain, passing it doubled through a metal tube, curving a little at the outer end from which the loop of the elastic cord projects. The rubber cord is passed around the pedicle of the kidney and by pulling on the outer ends of the cord and seizing them with a clamp, the desired amount of compression on the pedicle of the kidney can be automatically maintained without the slightest injury of the tissues. He has noticed that the suprarenal preparations seem to exert a more energetic action on the renal than on other blood vessels.

111. **Potassium Oxalate for Acute Suppurations.**—Cavazzani reported in 1897 his favorable results in treatment of phlegmons, suppurating glands and phlegmasia alba dolens with neutral potassium oxalate injected in fractioned doses in a 2 per cent. solution. He here reports that his later experience has confirmed his previous announcements. This drug seems to possess stimulating, opsonic and colloidal properties, he says, and it has proved particularly useful in cases of phlegmasia alba dolens. He gives the details of his last series of nine cases; recovery was complete in from four to forty-two days, with an average of less than twenty. The injections were repeated once, at an interval of five or six days. From 3 to 4 c.c. of the 2 per cent. solution of the neutral potassium oxalate are injected, fractioned, at ten or fifteen different points around the swollen lesion, the needle being introduced deep into the subcutaneous connective tissue. A third application is rarely required.

113. **Electric Accidents.**—In Tonello's case, a man of 37 succumbed suddenly to the passage of a current of 165 volts through his body as he held a 16 candle power lamp in his hand. The lesions found at autopsy indicated that death was the result of paralysis of the heart and respiration from the weak electric current acting on an individual with lesions in pleura, thyroid and pericardium reducing the resisting powers, with the additional factors of extreme heat, sweating and much lime dust in the air. The pathologic anatomic conditions caused by the electric discharge seemed to be identical with those encountered in death from asphyxia.

114. **Study of Abdominal Pain.**—Lodi analyzes the various forms of abdominal colic, especially pain in the epigastrium, as a means of differentiating herpes zoster, rupture of the muscles, phlegmon of the subperitoneal tissue, acute peritonitis, intestinal affections, affections of the pancreas, intestines, stomach and liver, cysts in the mesentery, kidney stone, diaphragmatic pleurisy and aneurism of the aorta, besides the pain accompanying diffuse or constitutional disorders, such as hysteria, tabes, lead poisoning, diabetes, etc., and abdominal pain as a reflex phenomenon.

Policlinico, Rome.

November 7, XV, Practical Section, No. 45, pp. 1413-1444.

115 *Typhoid Localized in Kidneys. (Nefro-tifo.) G. Giordano.

November, Medical Section, No. 11, pp. 477-524.

116 Behavior of Liver Glycogen during Starvation. (Del modo di comportarsi del glicogene epatico nella inanizione.) C. Fonzo.

117 Sensibility of the Human Skin. (Sensibilita cutanea dell 'uomo.) G. Calligaris.

118 Clinical Arguments in Favor of Assumption of "Cerebellar Neurasthenia?" (Nevrosi e forme organiche.) G. L. Lucangeli.

115. **Typhoid Localized in the Kidneys.**—In the first of the two cases described, a young woman, apparently convalescing from pleurisy, developed severe kidney symptoms, which bacteriologic examination showed were due to a typhoid septicemia localizing almost solely in the kidneys. The second patient was a boy of 14, with a focus of bronchopneumonia and hematuria with numerous tube casts and blood corpuscles. The diplococcus was cultivated from the sputum, but there was nothing to explain the urinary findings until the remarkably low number of leucocytes suggested the possibility of typhoid. The fever was intermittent in character, and there were no symptoms on the part of the abdomen, no typhoid bacilli in the stools, and the specific gravity of the urine was normal, as also its amount. However, typhoid bacilli were found in the urine and the agglutination test gave positive findings. The syndrome was never very serious and the child recovered.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PROCEEDINGS OF THE TWENTY-FOURTH ANNUAL CONVENTION OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS, held at the Jamestown Exposition, Norfolk, Va., October, 1907. Bulletin No. 116. Edited by Harvey W. Wiley, Secretary of the Association. Paper. Pp. 143. Washington: Government Printing Office, 1908.

LEHRBUCH UND ATLAS DER ZAHNHEILKUNDE MIT EINSCHLUSS DER MUNDRANKHEITEN. (Lehmann's Medizinische Handatlanten Band XXX.) Von Gustav Preiswerk, Lektor an der Universität Basel. Edition 2. Cloth. Pp. 398, with illustrations. Price, 14 marks. München: J. F. Lehmann's Verlag, 1908.

LES DILATATIONS DE L'ESTOMAC. Séméiologie et thérapeutique des distensions gastriques. (Les Actualités médicales.) Par René Gaultier, chef de clinique médicale à la Faculté de médecine de Paris. Boards. Pp. 95. Price, 1.50 francs. Paris: Librairie J.-B. Baillière et fils, 1909.

A DICTIONARY OF MEDICAL TREATMENT. By Arthur Latham, M.A., M.D., Oxon., M.A., Cantab., F.R.C.P., Lond., Physician and Lecturer on Medicine at St. George's Hospital. Cloth. Pp. 825. Price, $2.00. Philadelphia: P. Blakiston's Son & Co., 1908.

OFFICIAL AND PROVISIONAL METHODS OF ANALYSIS, Association of Official Agricultural Chemists. Bulletin No. 107. Edited by Harvey W. Wiley, Secretary of the Association. Paper. Pp. 272. Washington: Government Printing Office, 1908.

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION AT THE SIXTY-THIRD ANNUAL MEETING, held in Washington, D. C., May, 1907. Paper. Pp. 359. Published by American Medico-Psychological Association, 1907.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Twenty-sixth volume. Edited by Richard H. Harte, M.D., Recorder of the Association. Cloth. Pp. 756, with illustrations. Philadelphia: W. J. Dornam, 1908.

INFANTILISM FROM CHRONIC INTESTINAL INFECTION. By C. A. Herter, M.D., Professor of Pharmacology and Therapeutics, Columbia University. Cloth. Pp. 118. Price, $0.90. New York: Macmillan Co., 1908.

ANNUAL REPORT OF THE SURGEON-GENERAL, U. S. NAVY. Chief of the Bureau of Medicine and Surgery to the Secretary of the Navy. For year 1908. Paper. Pp. 164. Washington: Government Printing Office, 1908.

THE SURGERY OF THE EAR. By Samuel J. Kopetzky, M.D., Attending Otologist, New York City Children's Hospitals and Schools. Cloth. Pp. 368, with illustrations. Price, $4.00. New York: Rebman Co.

SURGICAL MEMOIRS AND OTHER ESSAYS. By James G. Mumford, M.D., Instructor in Surgery, Harvard Medical School. Cloth. Pp. 358, with illustrations. Price, $2.50. New York: Moffat, Yard & Co., 1908.

MEAT EXTRACTS AND SIMILAR PREPARATIONS. By W. D. Bigelow, Chief Division of Foods, and F. C. Cook, Physiological Chemist. Paper. Pp. 56. Washington: Government Printing Office, 1908.

BESTIMMUNGEN ÜEBER DIE ZULASSUNG ZUR AERZTLICHEN PRAXIS IM AUSLANDE. Von J. Schwalbe, in Berlin. Second Edition. Paper. Pp. 206. Leipzig: Verlag von Georg Thieme, 1908.

THE PRACTITIONERS' VISITING LIST FOR 1909. Flexible leather, with flap, pocket and pencil, and calendar for two years. Price, $1.25. Philadelphia: Lea & Febiger.

CANAL RECORD, Sept. 4, 1907, to Aug. 26, 1908. Vol. 1, with index. Cloth. Pp. 416. Ancon, Canal Zone: Isthmian Canal Commission Printing Office, 1908.

PREVENTION OF TUBERCULOSIS. State Charities Aid Association of New York. No. 102. April, 1908. Paper. Pp. 108. New York City: United Charities Bldg.

REPORT FROM PATHOLOGICAL DEPARTMENT CENTRAL INDIANA HOSPITAL FOR INSANE. 1903-1906. Cloth. Pp. 392. Indianapolis: William B. Burford, 1908.

FUN IN A DOCTOR'S LIFE. By Shobal Vail Clevenger, M.D. Cloth. Pp. 291. Price, $1.00. Atlantic City, N. J.: Evolution Publishing Co., 1909.

HEALTH, STRENGTH AND HAPPINESS. By C. W. Saleeby, M.D., F.R.S., Edin. Cloth. Pp. 411. Price, $1.50. New York: Mitchell Kennerley, 1908.

MAN, WOMAN, KNOW THYSELF! By Elmer Jefferson Bartholomew, Chicago, Ill. Cloth. Pp. 221, with illustrations. Chicago: Grant's Printery.

THE RED CITY. By S. Weir Mitchell, M.D., LL.D. Paper. Pp. 421, with illustrations. Price, $1.50. New York: The Century Co., 1908.

New Patents

Recent patents of interest to physicians:

902133. Combination tent and sleeping-bag. F. W. Burch, Pueblo, Colo.
901157. Producing phosphoric acid. F. J. Maywald, Brooklyn.
902177. Apparatus for treating oleic acid. P. Schwoerer, Strassburg, Ger.
902513. Endoscope. R. H. Wappler, New York.
903150. Purifying and humidifying air. W. G. R. Braemer, Buffalo, N. Y.
902647. Suspensory device. F. Day, Los Angeles, Cal.
902946. Physical-culture apparatus. G. R. De Nise, Denver.
902947. Stretching attachment for operating tables. G. R. De Nise, Denver.
903073. Shoulder Brace. M. W. Ferris, South Orange, N. J.
902574. Fumigator. D. F. Foltz, Calumet, Okla.
903134. Capsule intended to contain compressed gases. P. Giron, Paris, France.
902812. Pasteurization. A. Goetz and P. A. Jones, Grand Rapids, Mich.
902961. Respiration mask. G. F. Goodnow, Waukegan, Ill.
902737. Invalids' cabinet commode. J. Jones, Salem, Oregon.
903098. Vaginal syringe. O. Katzenberger, San Antonio, Texas.
902587. Disinfecting device. J. E. Lee, Conshohocken, Pa.
902826. Pasteurizing apparatus. C. H. Loew, Lakewood, Ohio.
902753. Bullet probe. G. E. Marshall, Aquilar, Colo.
902993. Mouth-gag for surgical purposes. A. M. McIntosh, Sydney, New South Wales, Australia.
903154. Disinfecting apparatus. J. N. Mitchell, Washington, D. C.
902674. Fumigating-tent and using the same. A. W. Morrill, Orlando, Fla.
902832. Inhaler. E. F. Philbrook, Chicago.
903107. Vaginal syringe. C. F. W. Ramus, Boston.
902607. Producing nitric oxid. I. L. Roberts, New York.
903029. Pasteurizing apparatus. F. Tyson, Canton, Ohio.
902785. Invisible ear-drum. F. M. Way, Detroit.
903121. Invalid's table. L. P. Wentzell, Greensburg, Pa.
903467. Dropper. E. C. Glines, Providence, R. I.
903289. Vapor bath apparatus. K. Hickox, Excelsior Springs, Mo.
903389. Making arsenate of lead. E. E. Luther and W. H. Volck, Watsonville, Cal.
903640. Electromedical apparatus. R. H. Wappler, New York.
903650. Case for holding ribbon-plaster or other matter. K. Wolf, Hamburg, Germany.
904172. Apparatus for therapeutic treatment of the air of living rooms. F. Batter, St. Johns, Ore.
903953. Spray nozzle. E. C. Brown, Rochester, N. Y.
903853. Disinfection. A. Gartner, Berlin, Germany.
904481. Crutch. H. A. Hood, Spencer, Mass.
904149. Atomizer for scent and other sprays. H. Rachmann, Haida, Austria-Hungary.
904095. Aseptic bottle. J. J. Shea, Beverly, Mass.